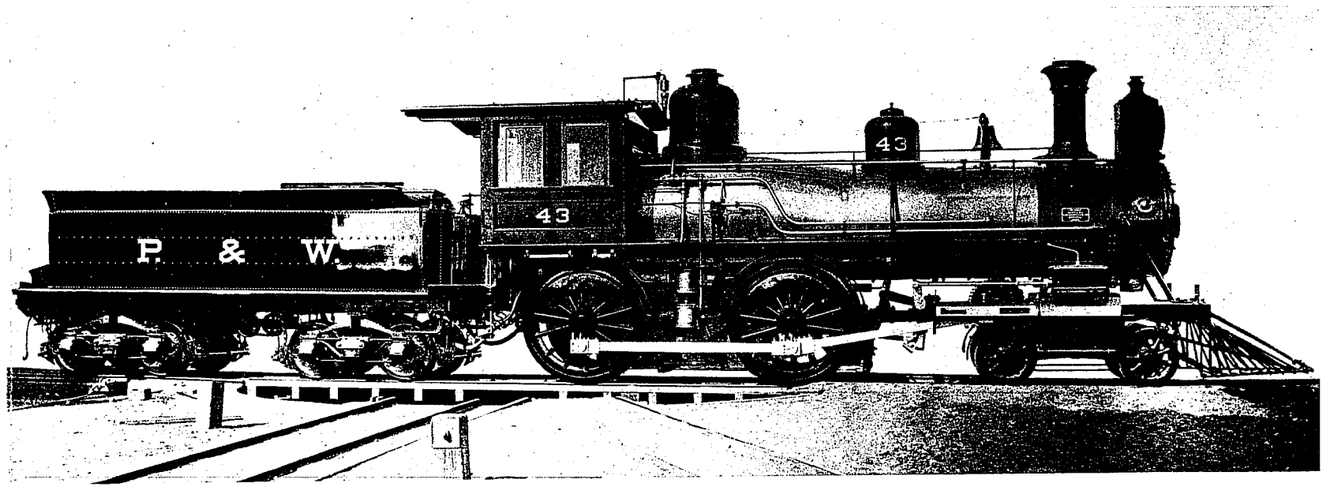
REPORT NUMBER 82
JUNE 1993

RHODE ISLAND FREIGHT

RAIL PLAN



STATE GUIDE PLAN ELEMENT 661

DIVISION OF PLANNING
RHODE ISLAND DEPARTMENT OF ADMINISTRATION
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PROVIDENCE, RHODE ISLAND 02908-5872

The Division of Planning, Rhode Island Department of Administration, is established by Chapter 42-11 of the General Laws as the central planning agency for state government. The work of the Division is guided by the State Planning Council, comprised of state, local, and public representatives and federal and other advisors.

The objectives of the Division are: (1) to prepare strategic and systems plans for the state; (2) to coordinate activities of the public and private sectors within this framework of policies and programs; (3) to assist local governments in management, finance, and planning; and (4) to advise the Governor and others concerned on physical, social, and economic topics.

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JUNE, 1993

STATE GUIDE PLAN ELEMENT 661

DIVISION OF PLANNING
Rhode Island Department of Administration
One Capitol Hill
Providence, Rhode Island 02908

ABSTRACT

TITLE :	Rhode Island Freight Rail Plan
SUBJECT:	State-wide goals, objectives, and policies for Rhode Island's freight rail system.
DATE:	June 1993
AGENCY:	Division of Planning, Rhode Island Department of Administration
SOURCE OF COPIES:	Division of Planning, One Capitol Hill, Providence, RI 02908-5872.
SERIES NO.:	Report Number 82, State Guide Plan Element 661
NUMBER OF PAGES:	xi + 106 + appendices (3)
ABSTRACT:	This plan is an update of the 1990 Rhode Island State Rail Plan. It provides a general policy framework for the state's freight rail system. The plan also prioritizes rail rehabilitation projects for funding by the Local Rail Freight Assistance program of the Federal Railroad Administration.

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AND

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PREFACE

The Freight Rail Plan has two major purposes. The first is to establish goals, objectives, and policies that will promote a safe, efficient freight rail system on a statewide basis that will meet the present and future needs of Rhode Island. Such a system is necessary to provide efficient freight service to existing industry and to areas designated for future economic development. The second purpose is to meet requirements of the U.S. Department of Transportation, Federal Railroad Administration (FRA).

With FRA approval of the Freight Rail Plan, freight programs and projects contained in the plan become eligible for FRA funding assistance. Therefore, this plan is the first requirement for federal funding of freight rail projects within Rhode Island. This plan contains an evaluation of existing freight rail service and infrastructure needs within the state. The evaluations concentrate on rail facilities that require upgrading and for which FRA funding assistance may be requested.

This plan is an update of a plan approved by the FRA in August, 1990. The updated Freight Rail Plan is a part of the transportation element of the State Guide Plan. The State of Rhode Island has prepared this revision of the State Rail Plan in accordance with the interim regulations governing assistance to the states for Local Rail Freight Assistance, under Section 5 of the Department of Transportation Act, promulgated by the Federal Railroad Administration (FRA) in Title 49 of the Code of Federal Regulations, Part 266. As such, the plan focuses on freight rail issues; rail passenger service is addressed in Report Number 75: Transportation 2010: Ground Transportation Plan.

Acknowledgements

This update was prepared by Mr. Everett Carvalho, Senior Planner, under the supervision of Mr. John P. O'Brien, Supervising Planner. Graphics were prepared by Mr. Mansuet J. Giusti III, Chief Cartographer. Mr Thomas J. Queenan, Senior Planner, Rhode Island Department of Transportation/Planning, under the supervision of Mr. Thomas A. Conboy, Supervising Planner assisted in this update. The rail infrastructure data in Part 4 were developed by Mr. John T. Vorro, Principal Civil Engineer of the Design Section, Public Works Division, of the Rhode Island Department of Transportation. The assistance of Mr. Stephen Devine, Principal Planner, Rhode Island Department of Transportation/Planning, on passenger rail service issues was very helpful during the preparation of this plan.

The plan was written and prepared for publication under Task 207, described in the work program of the Division of Planning for fiscal year 1993.

Report Organization

The state rail plan is assembled in a way that should make revisions easy while keeping the different sections of the plan separate and distinct. The authors suggest keeping the plan in a loose-leaf binder so that amendments to the document may simply be placed where needed as new or replacement pages. Any revision will be transmitted with a dated cover letter to insure that the user has the most current edition of the plan.

The plan is divided into parts and chapters, each with a number designation. For example, Part Two, Chapter Three is headed **02-03 Data Requirements.** Each part is paginated separately. Page numbers appear at the bottom of each page, the part number first, then a decimal point, and finally the page number. For example, the second page of Part Two is numbered **2.2.**

Tables and figures follow a convention established by the Division of Planning whereby each is keyed to the State Guide Plan by a hyphenated numbering system. A three-digit number preceding the hyphen corresponds to one of the following categories of the Guide Plan:

000 State Guide Plan Overview

100 Resources management and utilization

200 Economic development

300 Environmental programs

400 Human services

500 (Reserved)

600 Transportation systems

700 Utility systems

800 (Reserved)

900 (Reserved)

The Rail Plan falls within the Transportation Systems category category and is numbered **661.** The numbering system for each table and figure therefore designates, for example, the second table in Part Two; **Table 661-02(02).** The number **661** also appears before each part number (e.g., **661-01, 661-02**).

This report incorporates a system of citing sources that should relieve some of the congestion common to footnotes in this type of document. All references are numbered in the Bibliography in the order in which they are cited in the plan. Citations are indicated in the text by numbers enclosed by double parentheses. The authors credit a direct quotation by using the reference number, from the Bibliography, followed by the number of the page on which the quotation is found in the reference. Thus, quoted or paraphrased material from Page 22 of the ninth reference listed in the Bibliography would be cited **((9:22))**. Narrative that relies on significant portions of one of more references, and footnotes that clarify the text, would be identified by reference number only, e.g., **((9))**.

Adoption

This report was adopted by the State Planning Council as Element 661 of the State Guide Plan on June 17,1993.

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661-01 INTRODUCTION

01-01 Historical Perspective: Rhode Island's Freight Rail System

Rail service in Rhode Island faces problems typical of the Midwest and Northeast regions. Over the past several decades, the expansion of interstate highways has made truck and auto modes viable competition to the rail mode. This competition has reduced railroad revenues. As a result, rail facilities suffered from deferred maintenance, and the quality of service declined due to poor conditions and inefficient operation. This had made the auto and truck modes even more attractive, further reducing the demand for rail service.

In the early 1970's it became apparent that the railroads serving the Northeast and Midwest were ready to collapse. To save rail service, Congress enacted two major pieces of legislation, "the Regional Rail Reorganization Act of 1973" and the "Railroad Revitalization and Regulatory Reform Act of 1976". Without a doubt, this legislation saved much of the rail service in the Northeast and Midwest. Although the success of the railroad created by this legislation, the Consolidated Railroad Corporation (Conrail), may not have been as great as most had hoped, it was apparent that rail service improved considerably from pre-Conrail days. While there has been abandonment of some light density rail lines and a danger of abandonment exists on others, it is now safe to assume that the Northeast and Midwest will continue to be served by viable rail freight service in some form.

With the 1980's the rail mode became more important. Fuel prices had increased over 200 percent since the early 1970's. Since rail is the most fuel efficient mode for the movement of many commodities, efficient rail freight service will be vitally important in the future. Rail passenger service, particularly in the Northeast Corridor, is also essential.

In October of 1980, Congress passed the Staggers Act; this act provided for the restoration, maintenance, and improvement of facilities leading to the financial stabilization of railroads. This was accomplished largely by reforming regulatory requirements, effectively de-regulating much of the industry. The Staggers Act was followed in August 1981 by the passage of the Northeast Rail Service Act (NERSA). This legislation had significant impacts on rail service in Rhode Island. It also revived the supplemental transaction proposal of the "Staggers Rail Act". This process allowed all Conrail lines in Rhode Island and some in Massachusetts and Connecticut to be transferred to another railroad. Although several railroads expressed an interest in acquiring these lines, all Conrail lines in Rhode Island were awarded to the Providence & Worcester (P&W) Railroad on December 13, 1981. Actual transfer of Rhode Island rail lines from Conrail to the (P&W) railroad took place on May 1, 1982.

The acquisition of all Conrail lines in Rhode Island has had both positive and negative impacts. First, on the positive side, all of Rhode Island is now served by an efficient, profit motivated freight railroad. Rail freight service

to industry located within Rhode Island has improved since the P&W took over from Conrail in 1982. Rail service must continue to improve in order to compete effectively with the trucking industry. On the negative side, all interstate rail freight movements must now utilize the P&W. There is no longer any interstate rail competition and, therefore, the shipper has no choice other than P&W for rail freight service. It is felt that the positive impact has out-weighed the negative overall.

01-02 Federal Requirements

In order to reduce the effort required by the FRA in reviewing this plan, FRA requires that the location of required items be referenced. Table 661-01(01) provides the required information.

TABLE 661-01(01)

Location of FRA Requirements

Requirement	*Description*	*Page*
266.17(c)(1)	- Assistance Program Objectives	2.2
266.17(c)(2)	- Rail System Map	3.2
	- Rail System Description	3.1
266.17(c)(3)	- Classifications of Rail Service	5.1
266.17(c)(4)	- Project Screening Criteria	2.12
266.17(c)(5)	- Cost/Benefit Methodology	6.3
266.17(c)(6)	- Describe the Planning Process	2.1
266.17(c)(7)	- Describe Overall State Process	2.10
266.17(d)	- Contents of Updates	1.3

01-03 Federal and State Legislative Changes

The Local Rail Freight Assistance Act of 1978 (LRFA) provides assistance to the states for local freight rail service under Section 5 of the U.S. Department of Transportation Act. The rail freight assistance program included: continuation assistance, acquisition and rehabilitation assistance, substitute service, facility improvements, and planning and program assistance. Its main focus was to revitalize a problem rail line before it reached the point where abandonment was

likely. Lines with annual traffic densities of 3 million gross ton miles per year or less are eligible for assistance.

Under NERSA, the use of federal funding from the LRFA program for freight rail operating subsidies was eliminated as an eligible use of the funds. Rehabilitation or capital projects are now funded with a limit of 70 percent federal participation.

Congressional action in November of 1989 limited the authorization for the LRFA program to a maximum of $7 million nationally. Accordingly, Rhode Island's entitlement is expected to be $36,000 in fiscal 1994. "The Railroad Revitalization and Regulatory Reform Act of 1976 expanded LRFA nationwide, and broadened funding grants to lines that had not yet been proposed for abandonment." ((1:12)) This role for LRFA continued through the early 1980's but has recently been restricted to funding levels too low for rail line rehabilitation; nevertheless the LRFA program still supports rail planning by the states. Federal regulators have proposed closing out the existing program because its initial purpose, stabilizing rail service in the Northeast and Midwest, has been largely accomplished.

In the Federal Register dated November 30,1990 the following changes to 49 CFR, Part 266 were proposed:

	From		To
266.1	Definitions	266.1	Applicability
266.3	Rail Service Assistance Program	266.3	Definitions
266.5	State eligibility	266.5	Rail Freight Assistance Program
266.7	Project eligibility	266.7	State Eligibility
266.9	Federal/State share	266.9	Project Eligibility
266.11	Allowable costs	266.11	Federal/State Share
266.13	Distribution of funds	266.13	Allowable Costs
266.15	Requirements of State Rail Plan	266.15	Distribution of Funds
266.17	Appplications	266.17	Requirements of State Rail Plan
266.19	Environmental impact	266.19	Applications
266.21	Grant agreement and disbursement	266.21	Environmental Impact
266.23	Record,audit,and examination	266.23	Grant Agreement and Disbursement
266.25	Waivers and modifications	266.25	Waivers and modifications

The writer in a conversation with the FRA on February 3, 1993 was advised to use the interim rule as written in the Federal Register noted above and listed in the preceding "To" column.

01-04 Changes from Previous Plans

This plan is an update of a plan approved by the FRA in August, 1990. A substantial effort has been made in programming rehabilitation projects in accordance with the ranked program of projects detailed in Part 6 of the 1990 plan. A review of the status of those projects currently programmmed and/or pending FRA approval may be found in Part 4 of this plan, referenced by line under the subtitle. **Accomplishments:**. In addition, those rail crossing projects completed since the last version of this plan are referenced by line under this subtitle. Also in Part 4 under the subtitle **Freight Rail Use and Demand:**, are the findings for the individual lines from Technical Paper 143: Analysis of Freight Rail Use and Demand.

The findings of Technical Paper 143 and Technical Paper 141: Overhead Clearance/Dimentional Restrictions on Rhode Island Rail Lines are covered in Part 7 of this plan.

Amtrak has received funding approval for electrification of the Northeast Corridor for the development of high speed rail service from New Haven to Boston, including the Shore Line in Rhode Island from milepost 141.03 to 190.80. A brief discussion of high speed rail may be found in Part 3 of this plan. A more thorough discussion of the impact of the Northeast Corridor improvements on freight service is included in Part 7.

Several rail lines have been abandoned since the publication of the 1990 plan. A discussion of the abandoned lines and those under study for abandonment is available in Part 5.

Financing of future rail projects, in light of the expenditure of all existing available federal funds, through the creation of a Rhode Island Freight Assistance Program is discussed in Part 7. Other revisions relate to updating required solely by the passage of time and the availability of more current descriptive data.

PART 661-02 RAIL PLANNING PROCESS

02-01 Introduction

This part describes the planning process followed in developing the Freight Rail Plan in Rhode Island. This is an ongoing process involving several diverse areas in an ever-changing legal, technological, corporate, economic, political, and social environment. Rail planning is also a continuous process and as such, the process described in this Part is fairly flexible to allow all factors to be considered and to attract input from as many sources as possible.

The rail plan has two fairly straightforward purposes that the goals and policies must address. The first is to improve rail freight servive and coordinate passenger operations whenever feasible and cost-effective. The second is to make projects eligible for FRA funding assistance and to allocate available funding to priority projects.

02-02 General Philosophical and Policy Framework

The general philosophy behind Rhode Island's involvement in the railroad industry involves both freight and passenger service:

1. to provide for the continued (and improved) availability of rail freight service adequate to service existing industry; to attract new industry and jobs; to service extractive industries; and to deliver finished goods, foodstuffs, and other commodities to the state's citizens in a manner most appropriate under present and future economic, energy, and environmental conditions; and

2. to provide for the continued and improved availability of rail passenger service to the state's citizens and to businesses that are located in (or may decide to locate in) Rhode Island, where such rail passenger travel is appropriate under present and future economic, energy, and environmental conditions.

For a more in depth treatment of rail passenger service and related planning projects, see Report Number 75: Transportation 2010, dated March 1992, written by Transportation Section, Division of Planning, Rhode Island Department of Adminsitration.

Behind this general statement of philosophy, there are several slightly more specific areas of state policy, each of which must be considered tentative and subject to change. These rail policies are:

1. The operation of rail freight service should be a private-enterprise venture, and long-term state involvement in operations should be avoided if possible.

2. Intermodal competition and intramodal competition, especially competitive long-haul routes, should be available to the Rhode Island freight user.

3. The motivation to provide quality rail freight services to Rhode Island should be profit-motivation rather than regulation, and disincentives to the provision of quality rail service should be removed.

4. Public funding and assistance should be aimed at providing capital and other improvements appropriate to enable viable private-enterprise freight operations, rather than be aimed at merely subsidizing non-viable operations; and preventative measures to avoid abandonment are preferable to post-abandonment subsidy and related actions.

5. In return for its capital investments, the state should acquire title, rights, or other interests in the railroad fixed plant sufficient to enable continuation of rail services even if the present operator can (or will) no longer operate.

6. Public funding for rail passenger service should be consistent with energy, environmental, economic development, and social policy, considering long-term costs of non-rail alternatives.

7. All likely future options should be preserved and the permanent destruction of rail lines or rights-of-way with potential future use should be avoided.

02-03 Goals, Objectives and Criteria

From the philosophy discussed in the previous section, numerous goals arise. Given that there is a general philosophy to continue the availability of rail freight service on most (if not all) of the remaining rail lines in the state by profit motivated operators, several goals that improve the economics of operation on these rail lines become obvious. Inasmuch as some of these goals involve the generation of more traffic on underutilized lines, goals aimed at the improvement of the quality of service become equally important.

Energy and environmental considerations as well as the deterioration of our highways from heavy use create another set of goals, which, in general, aim at the optimum modal split. The need to maintain future options and the need to insulate the long-range availability of quality rail service from the periodic economic difficulties of individual carriers dictate goals that tend toward public ownership of fixed facilities or some other system of public rights to rail lines that are in jeopardy. These goals must be very carefully defined to avoid any disincentives to current operators who wish to make long-range investments in particular lines.

Safety considerations set goals that must temper the attainment of rail utilization and economic goals when public funding is required. The attainment

of safe and efficient operating conditions for both freight and passenger rail services will be significant factors in allocating scarce public financial resources to the rail mode.

GOALS AIMED AT QUALITY OF FREIGHT SERVICE

- o Promote and encourage more frequent service
- o Increase reliability of service
- o Improve system efficiency to reduce shipping times
- o Remove weight restrictions
- o Remove dimensional restrictions
- o Improve the long term service outlook
- o Improve intermodal facilities and public delivery facilities

GOALS AIMED AT IMPROVED OPERATING ECONOMICS

- o Reduce operating costs by improving track conditions
- o Encourage greater yard efficiencies
- o Improve main line efficiencies
- o Increase patronage on lightly used lines
- o Promote healthy labor relations
- o Undertake regulatory reform to insure equitable treatment of all transportation modes
- o Encourage equitable divisions of interline revenue
- o Take pro-active measures to insure fair rates
- o Promote equitable public support of all transportation modes

ENERGY AND ENVIRONMENTAL GOALS

- o Promote use of freight rail in the attainment of air quality standards
- o Promote energy conservation through appropriate utilization of the rail mode
- o Minimize adverse environmental impacts
- o Provide adequate transportation for extractive industries (present and potential)
- o Preserve coal delivery capability to service power plants using this fuel
- o Reduce heavy vehicle loadings on highways by promoting the use of rail service where appropriate

LONG-TERM CONTINGENCY GOALS

- o Provide an equitable competitive environment for all transportation modes
- o Remove disincentives from rail operators' economic development efforts
- o Promote public ownership of railroad rights-of-way

- o Reserve the right to replace a failed carrier on all publicly owned rail lines
- o Provide public rehabilitation assistance to light density lines to avoid abandonments and preserve rail freight service
- o Preserve by public ownership abandoned rights-of-way where appropriate

RAIL SAFETY GOALS

- o Eliminate grade crossings wherever feasible
- o Continue grade crossing improvements to improve highway/rail crossing safety margins
- o Reduce pedestrian accessibility to railroad right-of-way
- o Improve track and structures

PASSENGER RAIL GOALS

- o Promote reliable and frequent high-speed northeast corridor intercity passenger rail service
- o Promote appropriate passenger services and effective marketing of commuter rail options
- o Promote the use of new technological innovations in the provision of passenger rail service
- o Provide cost competitive passenger rail service
- o Provide convenient intermodal connections from all rail stations to other public transportation modes.

Each of these goals implies objectives that usually are measurable by either quantitative or qualitative performance criteria. These objectives and criteria are shown in Table 661-02(01).

TABLE 661-02 (01)

GOALS	*** OBJECTIVES ***	*** CRITERIA***
GOALS AIMED AT QUALITY OF FREIGHT SERVICE		
Ability to provide more frequent service	Improve flexibility to shipper	Trains per week
Reliability of service	Improve on-time performance	Schedule adherence
Shipping times	Reduce car costs	Time
Removal of weight restrictions	263,000 pounds	Weight
Removal of dimensional restrictions	Improve high/wide accessability	Dimensional restrictions
Long term service guarantees	Shipper confidence	Operator stability
Improved intermodal facilities and public delivery facilities	Meet needs of off-line shippers	Facilities
GOALS AIMED AT IMPROVED OPERATING ECONOMICS		
Improve track standards	Viable operation of branch lines	FRA class III
Greater yard efficiencies	Reduce car delays.	Average time
Main line efficiencies	Locomotive & car cost	Time/on line efficiency
Increased patronage on branch lines	Viable branch lines	Cars shipped and received
Healthy labor relations	Working conditions/efficiency ..	Labor/management satisfaction
Regulatory reform	Remove artificial constraints ..	Profit motivated incentives
Favorable divisions of interline revenue	Equitable income distribution ..	Tariffs/percentage of divisions
Realistic rates	Affordable, profitable services	Profit margin
Equity of public support modes	Avoidance of counterproductive incentives	Public investment
GOALS AIMED AT ENERGY AND ENVIRONMENTAL CONSIDERATIONS		
Achieve air quality standards	Reduced use of less efficent modes.....	Clean Air Act
Energy conservation	Reduced use of less efficent modes.....	Energy use
Minimize adverse environmental impacts	Air, noise, water, other	Standard measures (NEPA)
Meet extractive industries needs	Flexibility	Transportation availability
Preserve coal delivery to power plants	Flexibility	Transportation availability
Minimize heavy highway loadings	Reduce highway overloadings	Average weight

*** GOALS ***	*** OBJECTIVES ***	*** CRITERIA ***
GOALS AIMED AT LONG TERM CONTINGENCIES		
Long-term economic security of operators ...	Long-term viability of service	Profits
Remove disencentives from operators' economic development efforts	Optimize existing rail infrastructure through targeted marketing of sites to potential freight users	Increase car loadings
Public ownership of rights-of-way and state's ability to replace failed carrier operating on private right-of-way	Long term flexibility	Right-of-way miles owned
Adequate track rehabilitation and maintenance	Maintain or improve class rating	Class rated miles of track
Preservation of potentially viable abandoned rights-of-way	Preservation of transportation options	Public ownership
GOALS AIMED AT SAFETY		
Grade crossing eliminations	Highway safety	Quantity .....
Grade crossing improvements	Improved safety and efficiency....	Quantity .....
Reduced accesibility to right-of-way	Safety and reduced RR liability. . . .	Miles protected .....
Improved track and structures	Increase operating safety	FRA Class III
PASSENGER GOALS		
Northeast Corridor service	Fast, reliable service, electrification	Trip times, frequency reliability
Adequate commuter service	Effective highway use reduction	Subsidy, ridership availability
Passenger comfort, increased usage	Marketability	Ridership
Intermodal connections	Flexibility	Patronage
Safe operation	Safety	Accidents and injuries
Cost competitiveness	Competitive price, subsidy	Patronage, cost to the state

02-04 Data Requirements

Data requirements for state rail freight planning fall into four general areas:

1. Physical data concerning the fixed plant, location of customers developable land, and equipment.

2. Operating and economic data concerning the operator and connecting railroads as well as intermodal connections.

3. Market and demand data concerning existing rail users.

4. Potential for changes: new industrial development, modal shift by present industry, changes in extractive industry , changes in the economic health of the operators, and the effect (cost/benefit) of these changes on the state.

The remaining portion of this section describes data requirements in considerable detail. However, it should be noted that much of the data discussed is collected on an as-needed basis. It is considered a waste of limited staff time and an unnecessary burden on railroads, business and other government agencies to collect data that will not actually be used. Also, while the availability of detailed data is critical for lines being considered for financial assistance, data for lines that will not be considered for financial assistance is of less importance. Therefore, the data collection effort will actually vary from line to line within the state.

Physical data is derived from several sources. The state already possesses accurate maps and aerial photos that locate the individual rail lines and their relation to other modes. Railroads have track charts, evaluation sheets, and maps. The individual municipalities have zoning maps that show the location of industrial-zoned land. From these sources, very precise maps of the physical rail plant and its surroundings within the state can be created. Actual physical inspection of all Rhode Island rail lines by state personnel confirms this map data and determines the actual physical condition of the track and facilities.

The state also maintains data on all railroad grade crossings within Rhode Island (see appendix A) and all grade crossing-related motor vehicle accidents. This data is used to prioritize grade crossings that will be improved through the Federal Highway Administration's Section 203 program.

Outside the borders of Rhode Island, the connecting system is determined from railroad data and from data developed by other states. Little physical inspection of the connecting system is undertaken by Rhode Island state personnel. Physical inspection and railroad data is used to determine the condition of the rolling stock and the equipment. Other physical data is collected as needed to evaluate a project's consistency with the goals, objectives and performance criteria shown previously in Table 661-02(01)

Operating data comes from railroad employees' timetables, interviews with railroad officials and actual physical observation of operations. Particular emphasis is placed on determining the long distance flows of freight traffic into New England and, in turn, into Rhode Island. Shipper interviews are used to confirm railroad information regarding operations.

Whenever possible, data for rail passenger operations is collected directly from the railroads providing the service. All passenger service operations provide ridership data and on-time performance data on a regular basis. When required, state personnel also perform ridership counts and collect other operational information by personal inspection of services. This allows an analysis of service provided with respect to the goals, objectives and performance criteria previously shown in Table 661-02(01). At times other specific operation and economic data may be required to evaluate previously listed goals, objectives and performance criteria. When this need arises, special efforts are made to collect this data.

On all lines for which funding under the present FRA/State program is available, attempts are made to identify every shipper/receiver on the line. When possible, the historical trend of rail use by these shipper/receivers is determined, as are the impacts of discontinued rail services, lessened rail service, and or improved rail service on these users. Additional data is collected, on a case by case basis, as required.

Because it is, by definition, speculative, data concerning the change (or potential for change) of the rail system is more difficult to obtain than most of the previously described data. To a large extent, the public participation process, inputs from local planning agencies, and information volunteered by the railroads and their users is the source of this information. Nevertheless, this type of data is essential to determine the "benefit" in any "cost/benefit" analysis of potential projects. When considered necessary, the state performs independent analysis of the rail industry in general, and of Rhode Island railroads in particular in an attempt to estimate changes that are possible.

In addition to the above described data, certain standard reference publications are used as appropriate background as required.

These include:

- o FRA maps
- o Rail atlas
- o Official Railway Guide

- o USRA's Final System Plan
- o ICC statistics
- o FRA rail line classifications
- o Clearance diagrams
- o Trade publications and periodicals

Also, certain socio-economic data is acquired, as necessary, mostly from existing state sources:

- o Number of employees by industry types along any threatened branch lines
- o Average wages in threatened areas
- o Average secondary wages
- o Unemployment data in threatened areas
- o Welfare and other public assistance statistics
- o State and federal income and sales taxes related to potential job loss and industry closing.

In some cases data, in addition to that previously described, will be required to evaluate goals, objectives and performance criteria or to analyze other impacts associated with particular services or projects. These data are often collected on an as-needed basis.

Additional data collection efforts may focus not only on rail data, but also on alternative modes such as the bus, truck, air, and water modes. A significant amount of information concerning these modes is readily available from state agencies. In particular, the continuing transportation planning process (funded by FHWA) and the transportation air quality planning process produce data that may be useful in the rail planning process. Therefore, when additional data are required, they may be readily available.

02-05 Public Participation

One key to a successful freight rail plan is a thorough public participation process. It is extremely important that public participation takes place early in the process and not merely as an opportunity to comment on a nearly final product. Accordingly, this freight rail planning effort has included a two-fold public planning and review process.

1. The formal, established, and well-defined process of public hearings, and formal review by interested agencies, and

2. An intensive informal "open door" process in which the widest possible range of individuals are invited and encouraged to participate in the entire process from its inception to the final result.

The first of these two processes is a well established procedure that meets all legal requirements, state and federal. The formal interaction between interested agencies is discussed in the next section of this part, Management and Administration.

A notice advising the public of the opportuity for a public hearing was published in all editions of the Providence Journal and the Evening Bulletin on May 14, 1993 and was also sent to over 300 individuals and agencies. A public hearing was held on June 3, 1993.

The second process was much more informal and, of necessity, much less well defined. Simply stated, it was an attempt to invite (and encourage) interested parties to participate from the beginning and to make their input in whatever part of the planning effort interested them.

To achieve this, updated parts of the previous State Rail Plan (1990) were distributed to interested persons with a request for comments, and where appropriate, data, to be considered in this update. This request for input included the following organizations, individuals, and towns.

- The National Rail Passenger Corporation (Amtrak)
- Consolidated Rail Corporation
- Providence and Worcester Railroad Company
- Seaview Transportation Co.
- National Railroad Foundation and Museum of Newport
- Newport Star Clipper Dinner Train
- R. I. Department of Economic Development
- R.I. Department of Transportation:
  - Division of Planning
  - Division of Public Works
  - Division of Real Estate & Propery Management
  - Division of Maintenance
- R.I. Public Utilities Commission

- o U.S. Department of Transportation, Federal Highway Administration
- o Coventry
- o North Smithfield
- o Pawtucket
- o Providence
- o Woonsocket

Comments and data received were used in the preparation of a preliminary draft of this update.

02-06 Management and Administrative Procedures

The freight rail planning effort heavily involves two state agencies, The Planning Division of the Rhode Island Department of Transportation and the Rhode Island Department of Administration's Division of Planning. Since much of the day-to-day rail planning activities are performed by the Planning Division of RIDOT, close coordination between both agencies has been required throughout this planning effort.

The Division of Planning of the Department of Administration is the staff agency of the State Planning Council, the Metropolitan Planning Organization for the State of Rhode Island. The State Planning Council serves as the principal mechanism for coordination of all planning and development activities within Rhode Island. The State Planning Council adopts and maintains the State Guide Plan. With specific reference to transportation, the State Planning Council is the policy body for continuing transportation planning. The Division of Planning, as the staff agency to the State Planning Council, is responsible for the preparation of the long range transportation plan, the Transportation Improvement Program, and other transportation plans that are state or regional in nature.

Rail planning activities are also coordinated with other state agencies, such as: the Rhode Island Department of Economic Development and the R.I. Public Utilities Commission, as required. Local planning agencies are also contacted concerning plans and programs that directly impact local communities.

02-07 Screening Criteria

Federal regulations (49 CFR 266.17(c)(4)) require the state to evaluate each rail line for LRFA eligibility:

The Freight Rail Plan shall establish and describe screening criteria to be used in selecting the eligible lines which the state analyzes in detail, identify these lines, and explain how the application of the screening criteria resulted in this selection.

These are the rail lines in Rhode Island:

1. Bristol Secondary Track
2. East Junction Secondary
3. East Providence Secondary
4. Harbor Junction Wharf Industrial Track
5. Moshassuck Industrial Track
6. Newport Secondary Track
7. Pascoag stub
8. Providence and Worcester Main Line
9. Quonset Point/Davisville Industrial Track
10. Shore Line
11. Slatersville Secondary
12. Warwick Industrial Track

Six screening criteria have been used in Rhode Island to determine rail line eligibility for LRFA funding. The following criteria are applied (in sequence) to each of these lines.

1. Eliminate all lines that have a traffic density so great (above 3,000,000 gross ton miles per mile per year) that they are ineligible for aid under the existing federal program.

   o There are currently no lines in Rhode Island with a traffic density that exceeds this level.

2. Eliminate the main lines of interstate railroads that provide limited direct freight service.

   o This eliminates the 49.7 miles of the Shore Line.

3. Eliminate all branch lines where the previous or current expenditure of federal or state funds has resulted in rehabilitation sufficient to meet foreseeable needs.

o This eliminates the Harbor Junction Industrial Track and the East Junction Secondary Track. The Harbor Junction Industrial Track is currently undergoing the final phase of rehabilitation work funded under the LRFA program. The East Junction Secondary Track is scheduled for rehabilitation during the spring/summer of 1993 and is funded under the LRFA program.

4. Eliminate rail lines for which there appears to be no significant need presently, for rail freight service.

o This eliminates the Bristol Secondary track between mileposts 0.0 and 1.7, south of the Mobil Oil Corporation facility.

5. Eliminate lines for which only normal maintenance appears necessary to meet existing and potential freight service demands.

o This eliminates:

1. Moshassuck Industrial Track from milepost 0.0 to milepost .96 excluding the portion from milepost .96 to 1.67 in the town of Lincoln which was abandoned on November 13,1991.

2. Pascoag Stub

3. Warwick Industrial Track

6. Eliminate lines that are not eligible for FRA funding due to a lack of an adequate number of carloads.

o This eliminates:

1. The Bristol Secondary Track south of milepost 1.9.

2. The Newport Secondary Line

After application of this screening process, the remaining lines are prime candidates for funding assistance. The four lines that will be considered are listed below:

- o East Providence Secondary Track
- o Providence and Worcester Main Line
- o Quonset Point/Davisville Industrial Track
- o Slatersville Secondary Track

Application of these screening criteria is valid for this point in time. In the future, factors such as the proposed location of a new freight user or increased demand by existing users may make re-examination of the screening process necessary. Also, future analysis may show that significant improvements in operating efficiency may occur from rehabilitation of lines eliminated through screening criteria six. Generally, if the railroad or another entity has proposed a project with unusual benefits to the state and its citizens on lines eliminated by the screening process; those lines may be excepted for that purpose. Therefore, application of this screening process must be re-examined from time to time as use or demand on a line changes significantly.

Since the last plan was prepared in 1990, several eligibility changes have occurred that were reflected in the screening process above.

The affected lines are as follows:

- o The Harbor Junction line will be substantially rehabilitated at the completion of the Phase II rehabilitation project currently underway. Because of this, it is not now being considered for further funding assistance in accordance with criteria three.
- o The East Junction Secondary Line will be undergoing substantial rehabilitation and is not now being considered for further funding assistance in accordance with criteria three.
- o The Slatersville Secondary Track requires rehabilitation assistance to maintain current standards and safe operations. It is therefore eligible for assistance.

On the four eligible lines, a list of potential projects was assembled for consideration. The Providence and Worcester Railroad and the Seaview Transportation Company submitted a priority list of rehabilitation projects for their respective lines. In addition, all municipalities or agencies of government who own trackage on any operational Rhode Island rail line were contacted and asked to submit projects to be considered for LRFA funding assistance.

Part 661-03 CHARACTERISTICS OF RHODE ISLAND'S RAIL SYSTEM

03-01 Introduction

This Part presents a description of Rhode Island's railroads as well as key connections outside of the state. As such, this part (along with maps and descriptions of individual lines in Part 4 fulfills the FRA's requirements contained in ***regulation 266.17(c)(2).*** In compliance with these regulations, the following information is delineated for each line and illustrated on Figure 661-03(01):

1. The operating carrier or carriers
2. Freight traffic density
3. Location of passenger service

This Part also gives an overview of the importance of various rail services to Rhode Island, as well as a discussion of the trends in the railroad industry that are important to the physical and corporate structure of Rhode Island's railroads.

Rhode Island's present rail system is comprised of approximately 145 miles of track. The Providence and Worcester railroad company and Amtrak are the major operators over most of this system. Additionally, intercity commuter service is operated by Amtrak under contract to the Massachusetts Bay Transportation Authority (MBTA). This service is subsidized by joint agreement between the Rhode Island Department of Transportation, The Massachusetts Executive Office of Transportation and Construction and the MBTA in conjunction with the Federal Transportation Administration (FTA).

03-02 Rhode Island's Railroads

During the first seven decades of this century all of the rail routes into Rhode Island were controlled by the New Haven Railroad and later the Penn Central Railroad. Despite the presence of the New Haven and the Penn Central, a handful of small railroads, including the Moshassuck Valley, the Narragansett Pier, and the Warwick Railway, provided high quality local service that the larger interstate railroads couldn't provide.

At the present time there are two interstate railroads; one passenger (Amtrak) and one freight (Providence & Worcester) both of which enter the state from Massachusetts and Connecticut. Most of the smaller railroads that at one time had provided specialized local service are no longer in existence. For example, the Moshassuck Valley and the Warwick Railways are now owned and operated by the P&W. The Narragansett Pier Railroad has been abandoned. Besides Amtrak and the Providence and Worcester railroad, there are now three local railways operating in Rhode Island: the National Railroad Foundation and Museum of Newport formerly called the Newport County Railroad Foundation

(excursion service); the Newport Star Clipper Dinner Train (excursion); and the Seaview Transportation Company (freight switching service).

More than half of the rail trackage in Rhode Island is now owned by the State or Amtrak, although the P&W also owns a large system due to their takeover of Conrail track in Rhode Island. This occurred as a result of the Supplemental Transaction Proposal implemented through the "Stagger's Rail Act" and the "Northeast Rail Service Act of 1981"(NERSA). The State also has trackage rights over all Amtrak lines in Rhode Island.

03-03 Rail Freight Operations

In general, Rhode Island rail freight operations are local distribution of traffic which has been involved in interstate commerce. Almost no intrastate rail freight traffic exists, and very little freight travels through the state without either an origin or destination in Rhode Island. This is a dramatic change from the pre-Penn Central days when the New Haven Railroad used the Shore Line as the principal route for freight traffic to Boston and all of southeastern Massachusetts. Rail traffic is considerably more inbound than outbound, a reflection both of heavy consumer goods traffic and the nature of much of Rhode Island's industry, which produces high value merchandise that is often distributed by non-rail modes.

Large through-freight trains usually operate only on the P&W Main Line from the Massachusetts state line at Woonsocket to Valley Falls. All other rail freight services are, almost without exception, local switching services. The distances traveled by these local trains are relatively short by industry standards, with the state's largest branch line the Newport Secondary being only about 15 miles long. The individual rail users in Rhode Island are relatively small by industry standards. These factors, plus the typical congestion problems of urban freight switching, tend to make the rail operations within Rhode Island quite costly with no in-state long haul to cover local switching costs.

While Conrail no longer owns rail lines in Rhode Island, a brief discussion of Conrail's current status is appropriate since Conrail carries about 85 percent of the traffic moving to and from P&W's lines. Conrail is the largest freight rail system in the northeast/midwest region of the country, operating over approximately 13,100 route miles of track. During the 1980's, Conrail became profitable due mainly to increased efficiency and a reduction in size. Operational efficiencies such as those achieved by efforts to improve clearances have afforded them access to new markets and enhanced revenues from traditional rail transportation users. Conrail has been aggressive in packaging transportation services by both competing and cooperating with the trucking industry.

In 1989, Conrail began running double stack trains into New England and interchanging those trains with the Providence and Worcester Railroad. Much of this traffic terminates at Worcester, Massachusetts. By increasing the use of double stack trains to transport high value commodities to the east coast and tri-level car carriers to service the auto industry, Conrail has exploited the rail mode's inherent advantages in fuel efficiency and economies of scale over the truck mode.

An article in the Wall Street Journal dated November 20, 1992 depicts the success of the "aggressive growth attitude" of Conrail. Table 661-03(01) shows the ambitious projections of Consolidated Rail Corporation.

Table 661-03(01)

Conrail's Five-Year Plan

BUSINESS GROUP	1991 REVENUE (millions)	PROJECTED COMPOUNDED ANNUAL GROWTH (1991-1996)
Coal	$654	8.7%
Intermodel*	575	6.1
Chemicals	571	3.0
Automotive**	439	4.6
Food Products	363	3.7
Forest Products	346	2.6
Metals	295	4.9
Solid Waste	9	52.0
TOTAL	3252	5.5

*Highway trailers or containers carried on rail flatcars.
** Automobile parts and finished automobiles.

Source: *Consolidated Rail Corporation*

03-03-01 Providence and Worcester Railroad

The Providence and Worcester railroad provides the only interstate railroad freight service in Rhode Island. It operates a 500 mile system serving central Massachusetts, eastern Connecticut and all of Rhode Island. It also operates over Amtrak's main line from New Haven, Connecticut, to the Rhode Island/Massachusetts border.

The Providence and Worcester Railroad was, for nearly a century, leased and operated by the Penn Central and the New Haven Railroad and their predecessors. On February 3, 1973, the P&W resumed independent operations in Rhode Island providing a competitive routing alternative to the Penn Central. This competitive freight service lasted until May 1, 1982, when the P&W took over

all of Conrail's lines after Conrail ceased operations in Rhode Island as a result of the Supplemental Transaction Proposal of the "Northeast Rail Service Act of 1981".

P&W owns 20 miles of trackage within Rhode Island. In addition, the P&W claims permanent and perpetual freight service easements over the Amtrak Shore Line, which is approximately 50 miles long. The P&W also provides service on other lines in Rhode Island as noted in the description in Part 04 of this report. The P&W connects with the Springfield Terminal railroad, a subsidiary railroad of Guilford Transportation Industries (GTI), at Gardner, Massachusetts, and with Conrail at Worcester. As a result, it has competitive connections to the West via Conrail's Selkirk Yard or Springfield Terminal's Mechanicville Yard (both near Albany). The P&W also connects with the Central Vermont Railway at New London, Connecticut, through which it reaches the Canadian railroads. Figure 661-03(02) shows P&W's interstate connections serving Rhode Island.

The railroad has approximately 132 employees, and owns 18 locomotives and 37 freight cars. The average age of P&W's motive power is about 15 years, which compares favorably to the average age of the Class I locomotive fleet (which in 1988 was 13 to 14 years). This is in marked contrast to the average age of 20 to 25 years for regional/Class III operators similar to the P&W. P&W has one head end power car, two coaches, one diner and an observation car that are used to transport tourist passengers. Despite this, the P&W excursion service has been rather limited because of increased insurance costs and Amtrak's liability requirements for operations on the Shore Line.

The P&W has unique agreements with major rail unions covering all employees except for a handful of senior management people. P&W's principal yard operations are at Worcester, Massachusetts, and Valley Falls, Rhode Island. A maintenance of equipment facility is located in Plainfield, Connecticut. On May 1, 1982 P&W took over a number of freight yards in Rhode Island which had belonged to Conrail. Included in this group was Conrail's principal Rhode Island yard, located on Northup Avenue straddling the Providence/Pawtucket Line. This yard has been acquired by the respective redevelopment agencies of cities of Providence and Pawtucket and is partially developed as an industrial park.

De-regulation of the industry has given new freedoms to railroads like the P&W to undertake aggressive marketing of their services and streamline operations. In some instances however, de-regulation has been very much a double edged sword. "One result of de-regulation was that between 1979 and 1983, the P&W lost all of its trailer-on-flatcar (TOFC) business to and from Rhode Island customers. Prior to deregulation, this had been one of the railroad's fastest growing services" ((3)). At one time, the TOFC yard in Pawtucket handled as many as 1,000 cars a month.

Approximately 35 percent of the Providence and Worcester's freight traffic terminates or originates in Rhode Island. The rail traffic into Rhode Island consists of diverse commodities such as plastic pellets, scrap metal, foodstuffs, pulpboard and chemicals. In 1982 the P&W serviced approximately 186

customers. Since that time the customer base has continually eroded. The Providence and Worcester has provided generalized traffic data, from system-wide operations. The results of Rhode Island operations however, cannot be discerned from this information. Table 661-03(02) demonstrates the diminished car loadings per mile of line resulting from the additional Conrail branch lines acquired in 1982 and added to the P&W system. ((3))

The combined effects of deregulation and substantive changes in the New England economy have caused a steady decline in traditonal carload traffic on P&W, notwithstanding line acquisitions from Conrail in 1982 and 1991 and continuous business development efforts. In 1979 P&W handled 33,526 shipments of carload freight over 178 miles of line. Development of Container of Flatcar (COFC) traffic has been the bright spot which helps offset the carload traffic decline. From 1988 to 1991, P&W' container handling grew from 3,553 to 29,230.

Table 661-03(02)

Summary of P&W System Carloadings and Miles of Line Operated, 1973 Thru 1991

YEAR	*CARLOADS*	*MILES OF LINE*	*CARLOADS/MILE*
1973	15648	51	307
1974	18582	73	255
1975	15682	73	215
1976	25817	178	145
1977	27294	178	153
1978	26289	178	148
1979	33526	178	188
1980	30392	212	143
1981	27556	216	128
1982	22212	371	60
1983	20241	371	55
1984	20690	376	55
1985	21926	389	56
1986	23509	391	59
1987	25000	375	67
1988	24524	355	69
1989	21429	375	57
1990	19047	339	56
1991	19084	370	52

Source: *The Providence & Worcester Railroad Co.*

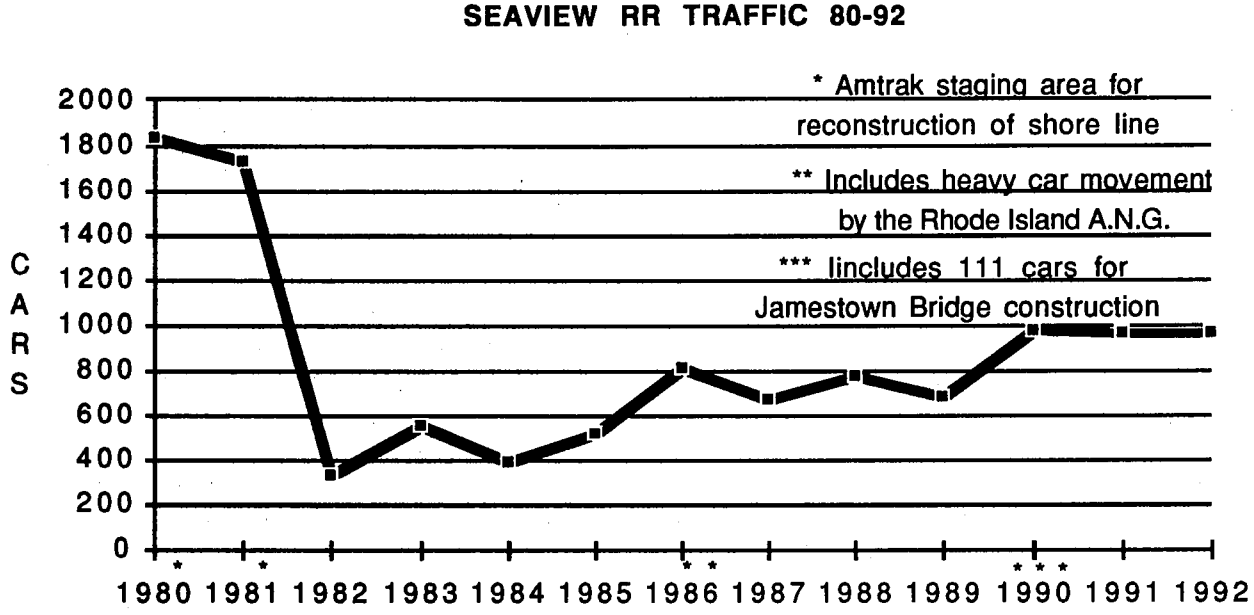
03-03-02 Seaview Transportation Company

The Seaview Transportation Company, Inc., operates a non-common carrier switching service over extensive trackage in the Quonset Point/Davisville Industrial Park. No passenger service exists on the Seaview. All of this system is within the Town of North Kingstown, where it connects with the Shore Line at mile post 168.3 at Davisville. No track signals exist, and there are numerous grade crossings, most of which are in relatively good physical condition. Track conditions are FRA I. Seaview has been aggressive in maintaining their trackage. In addition, a rehabilitation program funded in part by the New England Regional Commission (NERCOM) upgraded track conditions substantially on the Quonset main.

The significant industrial development at these facilities can provide this railroad with a potentially profitable business. This service is also vital to the military installations, which still occupy portions of the site. Traffic is shipped to Davisville via the P&W and connecting common carrier railroads and is then switched by Seaview for a service charge paid directly by the rail user to Seaview. The major rail user is a lumber treatment facility in West Davisville. The second biggest, and soon to be biggest, user of rail services is Toray Plastics America. Electric Boat now runs a distant third to the previous two. The U.S. Navy no longer uses rail at Davisville. Since 1985, the Seaview has seen modest traffic growth by rail users in the industrial park. Figure 661-03(03) shows rail traffic carried by the Seaview Transportation Company from 1980 through 1992 ((7)).

Marketing of the remaining parcels by the Port Authority to industrial firms who will utilize the rail mode is an important consideration in apportioning the cost of rail service to more potential users, thereby reducing per unit costs and improving the service. One of the major assets of the Quonset Point/Davisville Industrial Park is that it is served by the air, water, highway and rail modes. The provision of quality rail service, in particular, is felt to be a major attraction to heavy industry, warehouse and distribution facilities. Increased clearances on the Shore Line to accomodate double-stack containers and triple-stack car carriers would serve as an incentive to promote Davisville as a port of entry for imported cars.

Figure 661-03(03)



Source: *The Seaview Transportation Co.*

The Seaview system is the equivalent of FRA class I. The Seaview system consist of approximately 4.0 route miles from the Amtrak main line in West Davisville to the carrier pier at Quonset Point, and approximately 3.0 route miles from the Post Road switch to Pier II in Davisville, for a total of approximately 7.0 miles. Of the approximately 26 miles of track in the base, RIPA owns and Seaview operates 12. The balance is still owned by the U.S. Navy.

Except for two locations where Seaview has the right to "pass and repass", the U.S. Navy has recently condemned all of its track and banned Seaview from its use.

03-04 Passenger Rail Operations

Passenger and commuter rail operations have benefited from renewed interest by both the traveling public and federal/state government. Since 1985, the passenger rail user in Rhode Island has enjoyed improved facilities and service as a result of the re-location of the Providence Station, and the resumption of commuter service between Providence and Boston. This service was made possible by the "Pilgrim Partnership" agreement between the State of Rhode Island and the Commonwealth of Massachusetts, which provides for subsidized service through 1995. This service was made possible by a capital grant from the FTA.

The FRA no longer requires an analysis of rail passenger services in the Freight Rail Plan. However, in order to provide a complete picture of rail activities in Rhode Island, a brief description of rail passenger service is warranted. In addition to the general discussion of the passenger rail options available in Rhode Island that are contained in this plan, significant passenger rail planning efforts have been undertaken by the Division of Planning as part of the Ground Transportation Plan 2010 and by the Rhode Island Department of Transportation's Division of Planning. RIDOT has launched a comprehensive study of the mass transit options and opportunities for use/re-use of the state's railroad rights-of-way. This study, the Rhode Island Rail Corridor Feasibility Study, which is currently underway as this update is being prepared, is intended to be the basis for evaluating the demand for expansion of mass transit services and the feasibility of utilizing railroad rights-of-way for commuter light rail, people movers, busways and other transit options. This significant undertaking may have important implications for freight use of the existing rail infrastructure. Any new passenger service on an existing freight line will alter the method of financing the capital investment and maintenance costs of a line, resulting in the passenger operation contributing a greater share of the costs. It is anticipated that future studies will have to address coordination of freight and passenger use. The RIDOT study is anticipated to be completed in September, 1993.

Other significant passenger rail projects ongoing by RIDOT's Planning Division include the proposed acquisition of the abandoned Washington Secondary Track and Pontiac Secondary Track from the P&W Railroad. As of this writing, real estate appraisals and land surveys are being conducted and negotiations with P&W will commence shortly thereafter. The purpose of acquiring these lines is to permanently preserve them as future transportation corridors.

The restoration of the historic Kingston Railroad Station (along the Amtrak Main Line) is currently under design by RIDOT as part of the Kingston Station Intermodel Transportation Facility Project. The station, which was heavily damaged by a fire in 1988, is the last remaining original Stonington Railroad Company station still in active use for passenger rail.

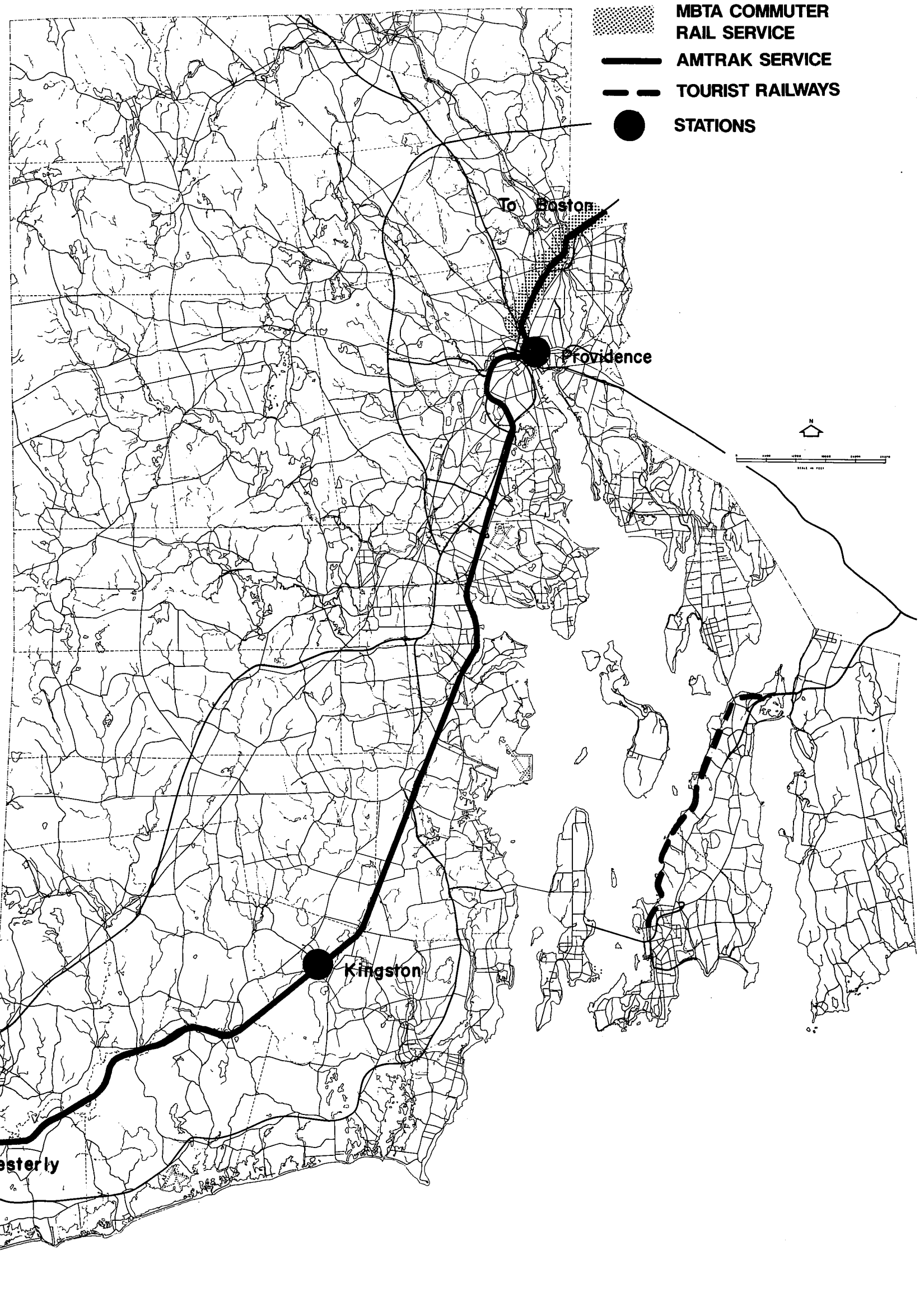
RIDOT is currently pursuing the acquisition of the historic Woonsocket Depot, along the Providence Worcester Main Line in Woonsocket. RIDOT hopes to preserve the station for future passenger rail service, while in the meantime developing an intermodal transportation facility for Rhode Island Public Transit Authority (RIPTA) bus service, elderly/handicap transportation, park & ride facility and proposed Blackstone Valley bikeway rest area/information center.

Also, RIDOT is coordinating the development of a commuter rail layover facility in the Providence/Pawtucket area for the overnight storage of up to six Massachusett Bay Transportation Authority (MBTA) train sets for its Providence service. RIDOT has selected a potential site and the MBTA has provided conceptual design services. The proposed facility will immediately benefit the MBTA by eliminating dead head moves to and from Providence, and will benefit RIDOT for future service south of Providence.

Rail passenger service is provided in Rhode Island by two railroads. Amtrak provides intercity passenger service between Washington and Boston over the Northeast Corridor, and the MBTA provides commuter service between Providence and Boston. Tourist/excursion service is provided by the National Railroad Foundation and Museum of Newport and the Newport Star Clipper Dinner Train. The rail lines over which these services are provided are shown on Figure 661-03(04).

Figure 661-03(04)

RHODE ISLAND
RAIL PASSENGER SYSTEM



03-04-01 Amtrak

The National Railroad Passenger Corporation (Amtrak) was created by Congress by the Rail Passenger Service Act of 1970. It was intended to be a self-sustaining/for profit corporation providing nationwide passenger rail service. From the onset of operations, Amtrak has suffered from under-capitalization and equipment shortages. Despite these problems, Amtrak has improved overall operating efficiency and reduced its dependency on government subsidy.

Amtrak owns and operates 49.7 miles of its "Northeast Corridor" between the Connecticut state line at Westerly and the Massachusetts state line at Pawtucket. Amtrak also owns yard facilities in Pawtucket and Providence. Amtrak stations are located at Providence, Kingston, and Westerly. The East Greenwich station was closed in January, 1989. Total Amtrak ridership in 1991 from Rhode Island stations was 399,934, which reflects a 1 percent increase from the 396,894 passengers carried in 1990 ((8)).

Under current agreement with the Providence and Worcester Railroad and the MBTA, Amtrak provides dispatching control over the entire length of the former New Haven including the 50 miles of Amtrak owned line in Rhode Island and the approximately 38 miles of MBTA track between the Massachusetts/Rhode Island state line and Boston. Amtrak currently operates a total of 20 trains weekdays over the Shore Line. The Providence and Worcester Railroad claims permanent and exclusive easements over the Northeast Corridor from the Massachusetts/Rhode Island line to New Haven, Connecticut. The Providence and Worcester Railroad uses their own crews to provide freight service on portions of this Amtrak owned line. It has long been the position of the MBTA that they reserve the right to take over the dispatching function of all trains between the Rhode Island state line and Boston.

The provision of Amtrak service is a valuable asset to the citizens of Rhode Island. Amtrak service to Boston (northbound) is faster than the auto and intercity bus modes and augments the MBTA commuter service by providing off peak travel options to Boston in competition with intercity bus operations. Southbound Amtrak service is provided from Rhode Island rail stations to Washington and points in between. Since 1989, the Coalition of Northeastern Governors (CONEG) has proposed a series of actions that would reduce the current Amtrak trip between Boston and New York City from 4 hours and 20 minutes, to about 3 hours, and to add additional capacity on the corridor. Travel time between Providence and New York City can be reduced from 3 hours and 40 minutes to about 2 hours and 30 minutes.

CONEG has proposed the following to achieve this goal:

- o procurement of dual-propultion locomotives and tilt technology rail cars to improve efficiency and to overcome curve radius impediments to higher speed;

- o infrastructure improvements at three stations in Connecticut and track straightening in both Connecticut and Rhode Island; and

- o electrification of the corridor between Boston and New Haven

As of this writing, Amtrak is proceeding with the design phase of the Northeast High-Speed Rail Improvement Project (NHRIP). NHRIP consists of two primary components: rail infrastructure improvements, including electrification of the line between New Haven and Boston; and aquisition of new high-speed passenger equipment capable of 150 mph electric operations. Depending of the level of funding appropriated for the project, Amtrak expects to complete the major infrastructure improvements needed for three hour service during 1997. Actual high-speed operations will commence dependent upon the ordering and the delivery schedules of the passenger train sets. The rail infrastructure improvements consist of the electrification of the line, which as of this writing is approaching the 60 percent design stage; installation of four new high-speed interlockings, two of wich will be located in Rhode Island at Westerly and Davisville, installation of new reverse signal system, which will allow trains to operate on either side of the two tracks at high speeds in opposite directions, bridge improvements, including conversion of open deck railroad bridges to a closed, ballasted deck and either raising overhead bridges or undercutting track to obtain the necessary clearances for the trolley wire, and track work, including tie replacement.

03-04-02 Massachusetts Bay Transportation Authority (MBTA)

The MBTA operates commuter rail service between Providence and Boston. This service was begun in February of 1988 as a result of the Providence station relocation and overcrowding at the Attleboro MBTA station. This service was made possible by a cooperative agreement between the State of Rhode Island the Commonwealth of Massachusetts and the Urban Mass Transportation Administration, now known as the Federal Transit Administration. Through this agreement, known as the "Pilgrim Partnership", an UMTA capital grant to the State of Rhode Island was used to provide equipment to the MBTA in order to establish the commuter service. This service is scheduled to continue (without Rhode Island operating subsidy) until February 1, 1995, under the terms of this agreement.

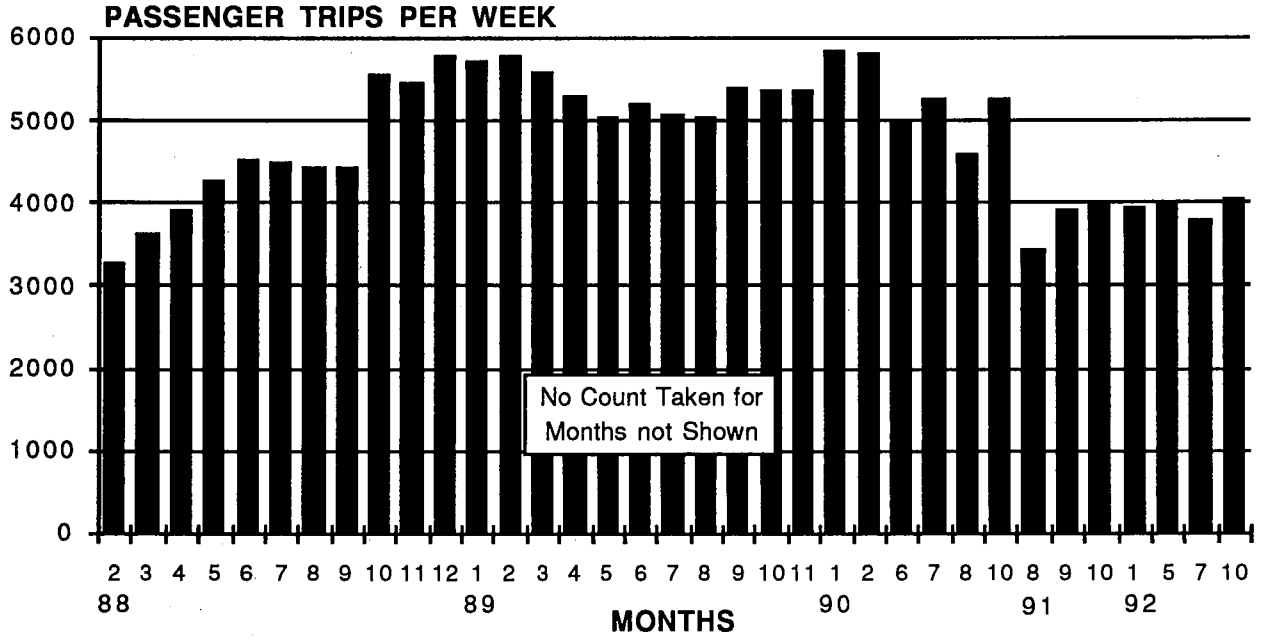
The MBTA commuter service has exceeded expectations and has proved to be quite popular. Prior to the start of service, it was estimated that approximately 200 passengers per day would utilize the service. RIDOT ridership data indicates that an average of 404 passengers per day utilize this service ((8)) resulting in an

average of 4,037 passenger trips per week through October of 1992. Since the last State Rail Plan update in 1990, the level of use has declined by approximately 30 percent, from 5,798 passenger trips per week in February 1990 to 4,037 in October 1992. However, this still significantly exceeds the original estimates, especially, taking into consideration that Providence lost many commuters to the South Attleboro station when it opened on July 30,1990, and alleviated much of the parking problems associated with Providence. This level of utilization may indicate increasing demand for commuter rail service sufficient to justify extension of the service south of Providence. Figure 661-03(05) shows the usage of the MBTA Commuter service.

RIDOT has commenced renegotiations with the MBTA for the extension of the Pilgrim Partnership beyond 1995.

Figure 661-03(05)

PROVIDENCE - BOSTON
COMMUTER RAIL RIDERSHIP



Source: *The Rhode Island Department of Transportation, Planning Division*

03-04-03 National Rail Foundation and Museum of Newport

The National Rail Foundation and Museum of Newport (NRF) began a tourist/excursion service on the state owned Newport Secondary track in July, 1979. The tourist railroad has become a very popular attraction among many offered in the Newport area. The NRF provides regular (four day a week) service eight months a year, which includes the summer months. Sunday service is offered the remainder of the year. In addition, the NRF conducts field trips and charter operations between May and December.

In an effort to meet anticipated demand, NRF has acquired, through the federal and state surplus property disposal systems, a 45 ton diesel electric locomotive and vintage coach and baggage cars. In addition NRF has acquired two P-70 coaches from the State of Rhode Island and is utilizing an additional seven state-owned P-70 coaches under a lease- purchase agreement. During the 1989 operating year, the NRF operated 111 trains and carried 5,481 passengers.

03-04-04 Newport Star Clipper Dinner Train

The Newport Star Clipper Dinner Train offers a unique dining and excursion service which also utilizes the state owned Newport Secondary Line. The Newport Star Clipper is modeled after Trains Unlimited's very successful operation in Waterloo, Iowa, known as the "Star Clipper". The Newport Star Clipper is operated by The Newport Star Clipper Limited Partnership. Since commencing operations in October of 1988, it has carried over 30,000 passengers in its first full year of operation. The Dinner Train operates twelve months a year, with regularly scheduled operations. During the winter months trains run only on Friday, Saturday and Sunday. During the spring, summer and fall, operations are conducted on a daily basis. The Dinner Train operates an average of 16 trains per week during the peak season excluding special events and charters.

Equipment operated by the Dinner Train consists of a 1943 65 ton General Electric switching locomotive, two 1946 Budd dining cars, an auxiliary/utility car, and a full service Budd kitchen car. Currently operating from the Historic Newport Depot, located adjacent to the Gateway center in Newport, the Dinner Train trip lasts three hours, and covers approximately 14 miles along the shore of Narragansett Bay. The Dinner Train operator provides maintenance of the line in lieu of an annual operating fee to the state.

03-05 Trends in Rail Use

Rail freight use in Rhode Island, like rail passenger service, declined between World War II and the mid-1970's. An extreme deterioration of service quality (especially reliability), dramatic improvements in the public highway system (and in truck service), the changing nature of the state's industry and an indifferent attitude on the part of the railroads have all been blamed for this trend. The downward trend seems to be ending however, and there are signs of a reversal. The Providence and Worcester has been a major cause of this trend

reversal as have been the changing attitudes towards the costs of the less energy-efficient alternative modes. Industrial development, including the industrial re-development of Quonset Point/Davisville, has been a positive factor.

The railroad industry has taken steps to regain competitiveness and enter new markets. These actions were necessary since railroads have very poor prospects for growth if they confine themselves to their traditional heavy industry customer base. Basic economic changes in Rhode Island as well as nationwide are moving local economies toward service and technology based industry.

Trucks have become increasing larger and heavier, and as such are competing in a business niche where railroads had never before been threatened: the long haul/bulk commodity transport market. Overall, the market share of total intercity freight in 1987 was an all time low of only 15.5 percent for the rail mode ((5)). Railroads have reacted in several ways to these problems: (1) by downsizing their operations and divesting themselves of marginal lines, and (2) by innovation in the marketplace. The end result may be rail freight operations very different from what exists today. Future rail operations may be limited to a core system designed to carry bulk commodities and intermodal traffic long distances. This is already evidenced nationwide by intermodal traffic, which has increased for the past seven consecutive years. In addition, railroads are offering multi-modal services and becoming more efficient, with smaller trains using smaller engines and smaller crews.

It is widely accepted that railroads are the most energy efficient form of transport for long distance movement of bulk goods. Railroads consume only about one-third as much energy as trucks to carry a given amount of freight on a long haul. To exploit their inherent advantages in the efficient transport of heavy loads, railroads are changing their operations by incorporating innovative and technological advances. The use of double stack trains, tri-level car carriers, and road railers are methods railroads are counting on to recapture business lost to the trucking mode.

There is also a growing realization, based on truck weight studies, that heavy trucks cause a disproportionate amount of damage to highway pavements and bridges that substantially exceeds road use tax revenue from their operations. The New England Transportation Consortium (NETC in which RIDOT is a participant) members fear that continuation of past trends threatens "to eliminate the rail system as an alternative to highway transportation of goods and persons, potentially increasing the future cost to the consumer for goods and to the user public for maintenance of the highway infrastructure." ((13)) Environmental problems will be exacerbated by continued shift of traffic from rail to truck, since rail is generally much more efficient and produces fewer noxious emissions than truck. The NETC therefore funded a study titled Rail Service in New England. The objective of the study was to find effective strategies that the states can pursue to promote the long-term health of the New England rail system and to identify its minimum core rail freight system.

The following truck/rail issue findings were taken from the NETC report:

o The amount of freight moving by rail in New England has declined steadily since the end of world war II,reflecting primarily the emergence of a competetive trucking industry and the shift fo a sevice-oriented economy.

o The major commodities moving on the New England system include lumber/wood products, pulp and paper products, non-metallic minerals, stone/clay/glass, transportation equipment, intermodal trailers and containers, and farm products.

o Increases in truck size/weight limits have the potential to reduce truck operating costs and thereby shift some traffic from rail to truck. However, the operating benefits for motor carriers will be offset to some extent by increases in public costs and negative externalities, including construction and maintenance costs related to pavement and bridges as well as potential reductions in safety, fuel efficiency, and air qulaity.

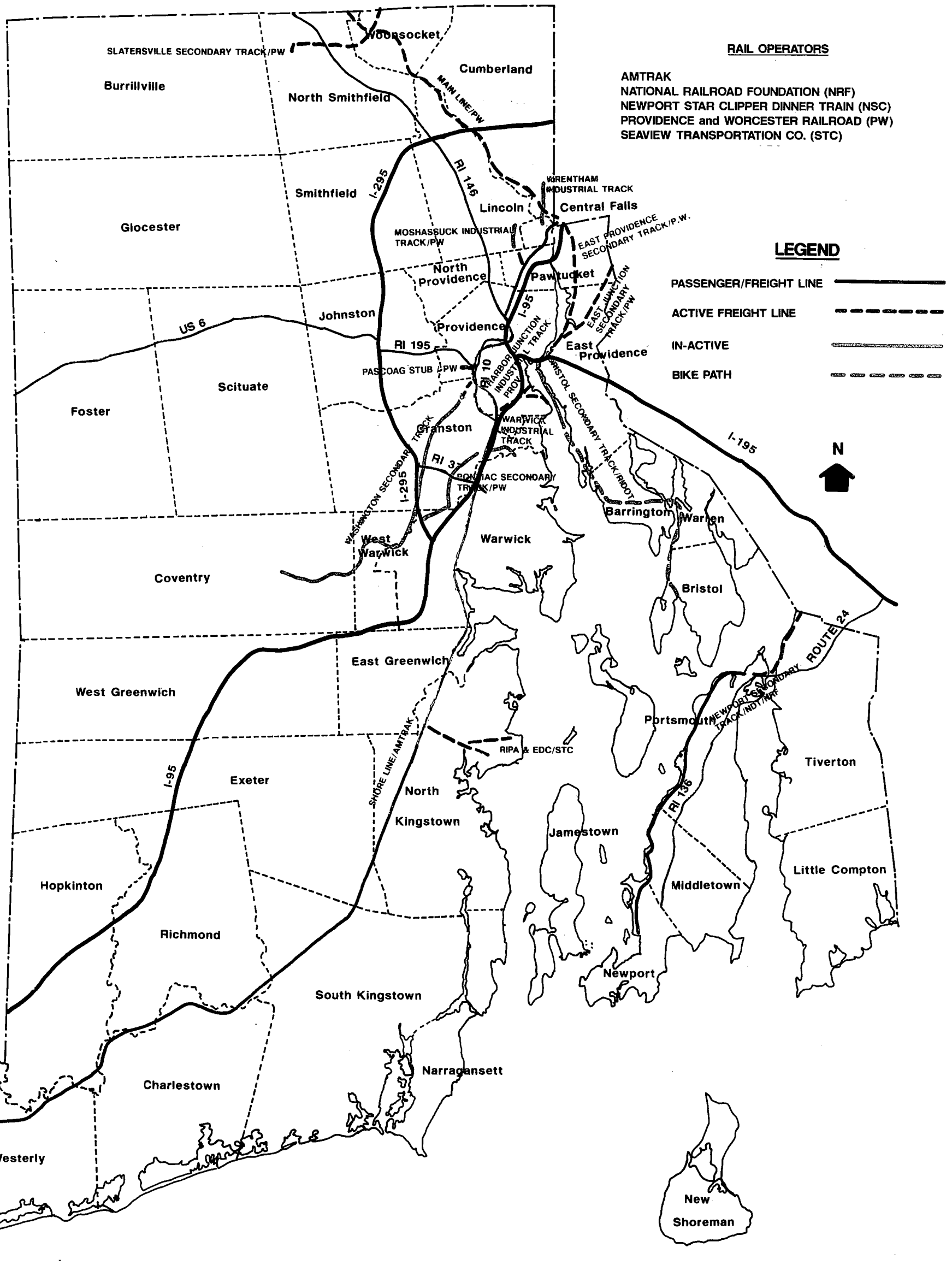
The following truck/rail issue recommendations were taken from the NETC report:

o From a regional perspective, the most important concerns are the continued existence of an efficient, financially stable freight rail system that a) serves major NE industries, b) provides access to potential sites for rail-intensive industrial development, c) provides intermodel connections, and d) provides efficient access to the national and Canadian systems.

o A regional focus will be helpful a) in dealing with interstate railroads that serve NE, b) in dealing with national freight transportation issues (including trucking and port development as well as railroads), c) in coordinating freight and passenger (current and potential) operations.

Figure 661-03(01)

RAIL LINES in RHODE ISLAND
and
FREIGHT DENSITY



RAIL OPERATORS

AMTRAK
NATIONAL RAILROAD FOUNDATION (NRF)
NEWPORT STAR CLIPPER DINNER TRAIN (NSC)
PROVIDENCE and WORCESTER RAILROAD (PW)
SEAVIEW TRANSPORTATION CO. (STC)

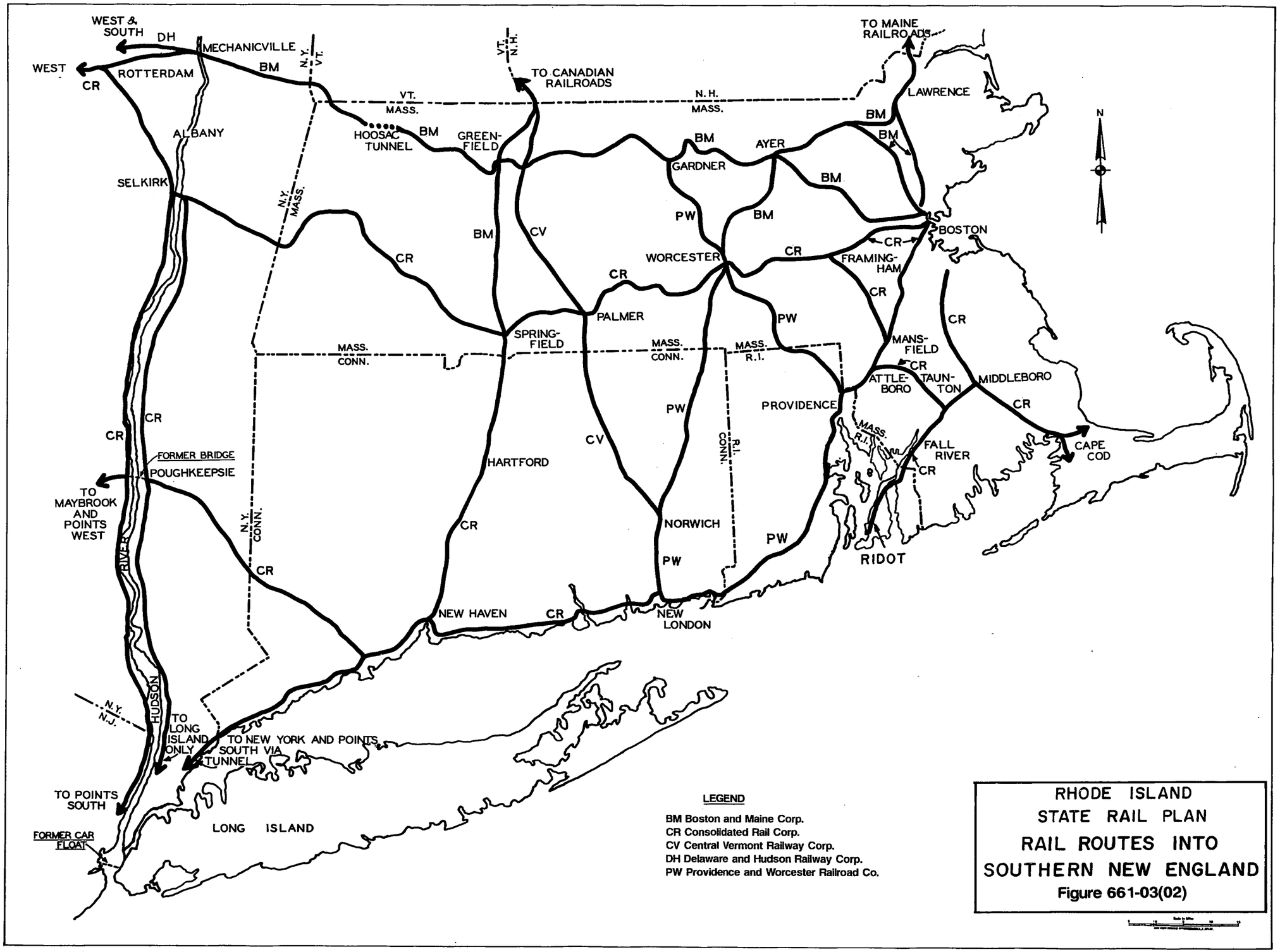
LEGEND

PASSENGER/FREIGHT LINE
ACTIVE FREIGHT LINE
IN-ACTIVE
BIKE PATH

NOTE: Railroad Operators May Vary From Owners

RAIL FREIGHT DENSITY

All rail freight lines in Rhode Island are less than 1,000,000 gross ton miles per mile


WEST & SOUTH
DH
MECHANICVILLE
WEST
CR
ROTTERDAM
BM
N.Y. VT.
VT. MASS.
HOOSAC TUNNEL
BM
GREEN-FIELD
VT. N.H.
TO CANADIAN RAILROADS
N. H. MASS.
TO MAINE RAILROADS
LAWRENCE
BM
BM
ALBANY
SELKIRK
N.Y. MASS.
BM
GARDNER
AYER
BM
BM
PW
BM
BOSTON
CR
CR
CV
BM
WORCESTER
CR
FRAMING-HAM
CR
CR
PALMER
PW
CR
SPRING-FIELD
MASS. CONN.
MASS. CONN.
MASS. R.I.
MANS-FIELD
CR
ATTLE-BORO
TAUN-TON
MIDDLEBORO
CR
CR
CR
FORMER BRIDGE
POUGHKEEPSIE
PW
PROVIDENCE
MASS. R.I.
FALL RIVER
CR
CAPE COD
CV
HARTFORD
R.I. CONN.
TO MAYBROOK AND POINTS WEST
RIVER
N.Y. CONN.
CR
CR
NORWICH
PW
PW
RIDOT
NEW HAVEN
CR
NEW LONDON
HUDSON
N.Y. N.J.
TO LONG ISLAND ONLY
TO NEW YORK AND POINTS SOUTH VIA TUNNEL
TO POINTS SOUTH
FORMER CAR FLOAT
LONG ISLAND
N
LEGEND
BM Boston and Maine Corp.
CR Consolidated Rail Corp.
CV Central Vermont Railway Corp.
DH Delaware and Hudson Railway Corp.
PW Providence and Worcester Railroad Co.
RHODE ISLAND
STATE RAIL PLAN
RAIL ROUTES INTO
SOUTHERN NEW ENGLAND
Figure 661-03(02)

Part 661-04 RHODE ISLAND RAIL LINES

04-01 Introduction

This part lists all rail lines within Rhode Island and provides the following information: ownership and use of the line, physical attributes, and supporting information when available. Passenger services, as well as the rail freight network, are described as necessary. Freight lines are described by their physical characteristics, traffic density, traffic mix, and FRA classification.

In order to assess freight usage and market trends, a freight rail use survey was sent to approximately 300 firms in certain commercial and industrial sectors targeted as potential rail freight users. Approximately 30% of these firms responded to this survey. Technical Paper Number 143: Analysis of Freight Rail Use and Demand documents the results of this survey. Findings for the individual lines are included under the heading: **Freight Rail Use and Demand**. The Pascoag stub, Warwick Industrial and Quonset Point/Davisville industrial tracks are discussed in the Shore line summary.

The Federal Railroad Administration classifies track by physical critieria, such as weight of rail, gage alignment, track surface, rail condition, and many other factors. The FRA track classification establishes the following operating speeds for specific segments of rail line.

Operational Speed Limits (mph) Based on FRA Track Classification

CLASS	I	II	III	IV	V	VI
Freight	10	25	40	60	80	110
Passenger	15	30	60	80	90	110

Each rail line is shown in schematic format that delineates the start/end mile posts of the line (or state border), connecting lines and mileposts. Rail facilities such as yards, junctions, and abandoned (but intact) right-of-way are also shown. All rail lines within Rhode Island are single track with the exception of the Shore Line. Inventory data on the existing at-grade crossings for each line are presented in Appendix A.

A typical legend for the schematics is shown below.

04-02 Private Rail Lines

LEGEND

▬▬▬	SUBJECT RAIL LINE	▬▬▬	CONNECTING LINE
▪▪▪▪▪▪▪▪▪▪▪▪▪▪	INTACT RIGHT OF WAY	═══	ROADWAY
○	RAIL LINE JUNCTION	●	YARD FACILITY
0.00	MILE POST	N/A	DATA NOT AVAILABLE

04-02-01 East Junction Secondary Track

Owner: The Providence and Worcester Railroad owns this rail line in Rhode Island, with the MBTA owning the Massachusetts segment east of m.p. 3.13. RIDOT will assume ownership of this line (in lieu of contingent interest) prior to the scheduled rehabilitation of the line under LRFA program. P&W will retain exclusive freight operating rights over the line.

I.C.C. Service Category: V (for description of service categories see p.5.1)

Operators:

Passenger: none

Freight: Providence and Worcester Railroad

Length: 6.9 miles, consisting of 3.85 miles in Rhode Island beginning at m.p. 3.13 at the Rhode Island border in East Providence, to m.p. 6.9 where it joins the P&W/RIDOT Bristol Secondary Line and the P&W's East Providence Branch. In Massachusetts the East Junction joins the MBTA owned Shore Line in the town of Attleboro at a point (former station) known as East Junction.

Location: The East Junction Secondary Line serves the municipalities of East Providence, Pawtucket and Attleboro (Massachusetts).

Trackage rights: P&W and Conrail have trackage rights from the MBTA to operate on the Massachusetts segment east of m.p. 3.13.

Physical Conditions:

Ballast: Gravel
Clearance: 19'-3"
Culverts: 4
Drainage: Fair
Overhead bridges: 2
Surface: Poor to Fair
Ties: Poor to Fair
Track bridges: 2
Weight of rail: 107#

Accomplishments: The LRFA Program of Projects in the 1990 version of this plan ranked the rehabilitation of this line as the number two overall priority. Approval for rehabilitation was granted by FRA in August of 1992 and will commence upon the transfer of ownership of the right of way to RIDOT which is anticipated in the spring of 1993. The program of rehabilitation will consist of extensive tie replacement; switch timber replacement; surface, line and ballast enhancements at a cost of approximately $320,000. The P&W will supply 30% in matching funds. This rehabilitatiopn will greatly improve service efficiency to the industrial concerns of the line.

Signalization: None

Grade Crossings: There are three existing crossings. Two crossing improvement projects were completed in 1991 and 1992. There is also one unnamed private crossing and two sidings that cross Broadway and Greenwood Avenue at the old Rumford Chemical Company facility in East Providence.

The following crossing improvement projects are currently programed in the bi-ennial element of the state's Transportation Improvenent Program (TIP):

CITY/TOWN	CROSSING	EXISTING PROTECTION	IMPROVEMENT SIGNAL	IMPROVEMENT SURFACE
E. PROVIDENCE	KING PHILIP RD		X	X

Unusual physical features/track and structure problems: The Pawtucket Avenue railroad bridge will be replaced as part of the Pawtucket Avenue "3R" (resurfacing) project at this location.

Service frequency and freight density: Service is provided by the P&W railroad at least three times per week and on an as-needed basis.

Military facilities served: None

Industry served: This line serves the Narragansett Industrial Park, which was formerly a race track. The City of Pawtucket, in partnership with the City of East Providence, has redeveloped the former racetrack, attracting light industrial/manufacturing firms to the park. This development is taking place in a densely populated portion of Rhode Island where vacant developable industrial-zoned land is very limited. The line also services a major producer of paper goods in Rumford and an oil terminal in East Providence. The East Providence Industrial Highway, connecting the Narragansett Industrial Park area with the East Providence ("South Quay") Port Facility, is nearing the start of construction. This highway project can also serve to attract industrial firms and potential rail users to this area.

Unusual traffic characteristics: None

History of the line: The East Junction Secondary Track was once part of the 1831 main line of the Boston and Providence railroad. It became a branch line when the B&P was leased by the Old Colony and it, in turn, became part of the New Haven in 1895.

Freight Rail Use and Demand: The industrial park at the line's terminus would be the most likely source of new users for this rail line. However, the Narragansett Industrial Park does not have any directly serviced rail customers and no rail facilities such as sidings, turnouts, or public loading/unloading areas are currently available. The P&W railroad has indicated that favorable sites adjacent to the rail line exist for bulk transfer or rail to truck transfer should a demand for these services develop within the immediate area of the industrial park.

The rail line does not carry any overhead rail traffic to other lines and would not directly benefit from intermodal traffic to/from the East Providence ("South Quay") Port Facility project under development. However a unique potential exists for the extension of freight service into the Attleboro/Taunton area connecting with the Conrail system. At the Massachusetts/Rhode Island border, the East Junction Line is owned by the Massachusetts Bay Transportation Authority with trackage rights for freight service held by Conrail.

Three survey responses were received from firms along the East Junction rail line. Two of three responses were from firms directly serviced from the rail line. None indicated that further diversion of freight traffic to rail is possible. Considering the low response from the survey by area firms and the redundant service provided by the competing East Providence Secondary line, prospects for increasing direct rail traffic on this line are marginal. Without new rail intensive industry locating on the rail line as a direct service customer or overhead traffic developing to out of state locations, no improvement in rail traffic can be anticipated. Current rail traffic density for on segment traffic is 14% of the average Class III line haul density.

04-02-02 Harbor Junction Wharf Industrial Track

Owner: The City of Providence owns the entire line, although the P&W has retained easements for rail freight service.

I.C.C. Service Category: V

Operators:

Passenger: None

Freight: P&W Railroad

Length: The Harbor Junction Industrial track consists of approximately five route miles. In actuality this is not a single branch line but rather a cluster of small lines radiating from a principal line slightly less than three miles in length.

Location: The Harbor Junction Industrial track runs between the Shore Line in Cranston and various industrial and port locations on or near the waterfront in the southern-most section of Providence.

Trackage rights: The entire line is operated by the P&W Railroad. No other railroad is known to have trackage rights.

Physical Conditions:

Ballast: N/A
Clearance: N/A
Culverts: N/A
Drainage: Poor on Allens Avenue
Overhead bridges: 3
Surface: Fair
Ties: In roadway set in concrete - poor condition
Track bridges: N/A
Weight of rail: In the port area rail is 110#; street rail is predominantly 80# and in poor condition.

Signalization: None

Accomplishments: A significant amount of track related rehabilitation was initially undertaken under the LRSA program and continued under the LFRA program under two separate phases. The primary areas of focus on Phase II (Phase I is now complete) have been track, tie and surface improvements from the Cranston Yard through the Texaco Tank Farm. Crossing improvement to Allens Avenue/Providence Gas crossing were undertaken under the Federal Highway Crossing Improvement Program since the publication of the plan.

Grade Crossings: There are 23 public at-grade crossings over the line. There are also two unnamed private crossings in the immediate Port area.

The following crossing improvement projects are currently programed in the bi-ennial element of the TIP:

CITY/TOWN	CROSSING	EXISTING PROTECTION	IMPROVEMENT SIGNAL	IMPROVEMENT SURFACE
PROVIDENCE	ALLENS & BAY	CROSS-BUCKS	X	X
PROVIDENCE	ALLENS & BLACKSTONE	CROSS-BUCKS	X	X
PROVIDENCE	ALLENS & CRARY	CROSS-BUCKS	X	X
PROVIDENCE	ALLENS & EDDY ST	CROSS-BUCKS	X	X
PROVIDENCE	ALLENS & GLOBE	CROSS-BUCKS	X	X
PROVIDENCE	ALLENS & HENDERSON	CROSS-BUCKS	X	X
PROVIDENCE	ALLENS & LEHIGH	CROSS-BUCKS	X	X
PROVIDENCE	ALLENS & MUTUAL	CROSS-BUCKS	X	X
PROVIDENCE	ALLENS & O'CONNELL	CROSS-BUCKS	X	X
PROVIDENCE	ALLENS & OXFORD	CROSS-BUCKS	X	X
PROVIDENCE	ALLENS & PLEASURE	CROSS-BUCKS	X	X
PROVIDENCE	ALLENS & PUBLIC	CROSS-BUCKS	X	X
PROVIDENCE	ALLENS & SAYLES	CROSS-BUCKS	X	X
PROVIDENCE	ALLENS & SEYMORE	CROSS-BUCKS	X	X
PROVIDENCE	ALLENS & SHERBURNE	CROSS-BUCKS	X	X
PROVIDENCE	ALLENS & SWAN	CROSS-BUCKS	X	X
PROVIDENCE	ALLENS & THURBER	TRAFFIC SIGNALS	X	X
PROVIDENCE	ALLENS AV (TEXACO)	CROSS-BUCKS	X	X
PROVIDENCE	ERNEST ST		X	X
PROVIDENCE	FIELDS PT DR		X	X
PROVIDENCE	HARBORSIDE BLVD		X	X
PROVIDENCE	TERMINAL RD		X	X

Unusual physical features/track and structure problems: Track conditions on this line vary. Where the track is on its own right-of-way, P&W is maintaining the track above FRA Class I (10 mph) conditions. Where the track runs down city streets, track conditions are very bad and quite difficult to keep at FRA Class I. A major problem is the existence of large amounts of street rail which is well over a half century old and having numerous switches.

Service frequency and freight density: Daily service exists on this line.

Military facilities served: This line serves little military activity at this time, although one ship of the Maritime Administration's ready reserve fleet was berthed at the Promet dock in the Port. The Port of Providence has been considered as a "Load Out" facility by the US Navy, although the Port at Davisville currently has that designation.

Industry served: This line is the only rail connection with the Port of Providence. Rail users on this line include two petroleum companies, an LPG distributor, a major scrap metal facility, two chemical companies, several warehouses, plus lumber, and office supply distributors. There is also a bulk transfer facility.

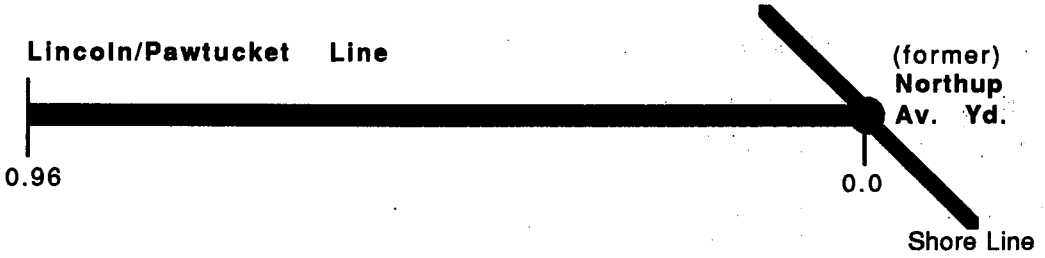
Unusual Traffic characteristics: Part of the Harbor Junction Industrial Track runs down the middle of Allens avenue in Providence. Surface improvements to three highway crossings are being considered as part of a 3R improvement project for Allens Avenue. The crossings at the Texaco terminal, Providence Gas Company, Port of Providence and the lead to the in-street track on Allens Avenue may be relocated as part of this project which is expected to improve track conditions. Another project is under study involving the northern section of Allens Avenue. This project will result in the re-construction of the Ernest street crossing and improve track surface in the immediate area of the highway. In addition, the Port of Providence has contracted for a study of the Port with emphasis on transportation access including Harbor Junction.

History of the Line: P&W operates this entire line and acquired much of it from Conrail on May 1, 1982. However, this branch was subsequently acquired by the City of Providence in August 1985. In 1979 and 1980 the City of Providence (through the port authority) funded some track rehabilitation necessary to keep rail services accessible to the port facilities located on the southern portion of this branch. The track involved was on land owned by the city and did not involve street rail on Allens Avenue.

Freight Rail Use and Demand: The Harbor Junction Industrial track services the Port of Providence from Cranston Yard on the Shore Line. The rail survey generated only two responses from firms serviced by the Harbor Junction Line. This is not representative of the current or potential traffic base, since this line has the highest on segment rail traffic of all Rhode Island rail lines. The on segment traffic density of the Harbor Junction line is three times the average Class III line haul density.

The Port area contains a large cluster of wholesale distributors that account for much of the rail traffic into the port area. Other than scrap metal, there is little other rail traffic generated by port activities. All rail traffic on this line is terminating with little or none originating and none carried overhead to other lines.

04-02-03 Moshassuck Industrial Track



Owner: The City of Pawtucket is the sole owner of the Moshassuck Industrial Track.

I.C.C. Service Category: I

Operators:

Passenger: none

Freight: Providence and Worcester Railroad

Length: Moshassuck Industrial Track is .96 miles in length.

Location: This line runs along the Moshassuck River valley. It services a heavily industrialized area at the Pawtucket/Lincoln line. At the southern end it connects with the former P&W "Northup Avenue yard" on the Shore Line in Pawtucket. Its northern end is the Pawtucket/Lincoln line.

Trackage rights: The P&W is the only railroad known to have trackage rights on this line.

Physical Conditions:

Ballast: Stone and gravel
Clearance: No vertical obstruction
Culverts: Poor condition
Drainage: Poor
Overhead bridges: none
Surface: Fair/Poor
Ties: Fair
Track bridges: 1
Weight of rail: Light rail (80-90#)

Signalization: None

Grade Crossings: There are two public at-grade crossings on this line. All crossings are in need of repair.

The following crossing improvement projects are currently programed in the TIP:

CITY/TOWN	CROSSING	EXISTING PROTECTION	IMPROVEMENT SIGNAL	SURFACE
PAWTUCKET	MINERAL SPRING AV	CROSS-BUCKS	X	X
PAWTUCKET	WEEDEN ST	CROSS-BUCKS	X	X

Unusual physical features/track and structure problems: Track conditions are fair, FRA class I in most areas.

Service frequency and freight density: Daily service had been offered on this line until 1988. Currently service is on an as-needed basis.

Military facilities served: None

Industry served: This line serves a very diverse group of industries located in former mill buildings.

Unusual traffic characteristics: None

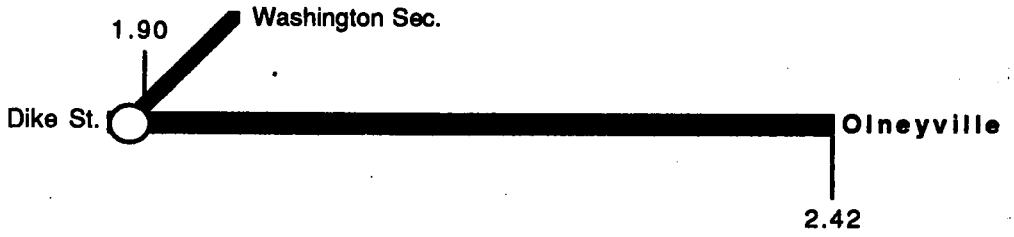
History of the line: The Moshassuck Valley Industrial Track formerly called the Moshassuck Valley Railroad, was aquired by the P&W on September 1, 1981. On October 18, 1991 the ICC gave the P&W authorization to abandon .71 miles of this line from milepost .96 near the Pawtucket/Lincoln town line, to milepost 1.67 near the town of Saylesville.

Freight Rail Use and Demand: The Moshassuck Industrial track is accessed from the Shore line just north of the Providence/Pawtucket line. This line services customers primarily in an industrialized area in the Fairlawn section of Pawtucket and nearby Central Falls and Lincoln. The surveyed firms from the potential market area totaled 74, which is approximately 25% of all firms contacted. These firms were primarily in the textile and fabricated metals manufacturing sectors. The Moshassuck Industrial track has no overhead traffic to other lines and on segment traffic density is about 12% of the average Class III line haul density.

There were three responses from the survey. All of the survey respondents were manufacturers. None of the respondents are current rail customers and none were located directly on the rail line. The employment average for the respondents was 317 persons and the primary commodity received was bulk materials. The primary commodity shipped was finished goods. None of the survey respondents indicated that they would consider a diversion of their current freight traffic to rail.

The low survey results may not be indicative of the potential for increased rail freight demand from this line. Potential rail customers in the area could also utilize the Shore line or the P&W Main line for off line rail service by intermodal methods.

04-02-04 Pascoag Stub



Owner: Providence and Worcester Railroad is the sole owner.

I.C.C. Service Category: V

Operators:

Passenger: none

Freight: P&W Railroad

Length: Approximately 0.5 miles

Location: The line is located parallel to Dike Street in the City of Providence and is accessed from the active Amtrak owned stub of the Washington Secondary.

Trackage rights: The P&W railroad has the only known operating rights on this line.

Physical Conditions:

Ballast: Gravel
Clearance: N/A
Culverts: N/A
Drainage: Good
Overhead bridges: There is one bridge carrying route RI-10
Surface: Fair
Ties: Fair
Track bridges: none
Weight of rail: 80#

Signalization: None

Grade Crossings: There are two public crossings. The PUC has been petitioned to remove the flashing signals.

The following crossing improvement projects are currently programed in the TIP:

CITY/TOWN	CROSSING	EXISTING PROTECTION	IMPROVEMENT SIGNAL	IMPROVEMENT SURFACE
PROVIDENCE	TROY ST	FLASHERS	X	X
PROVIDENCE	TROY ST	FLASHERS	X	X

Unusual physical features/track and structure problems: Track conditions are mostly FRA class I

Service frequency and freight density: "As needed"

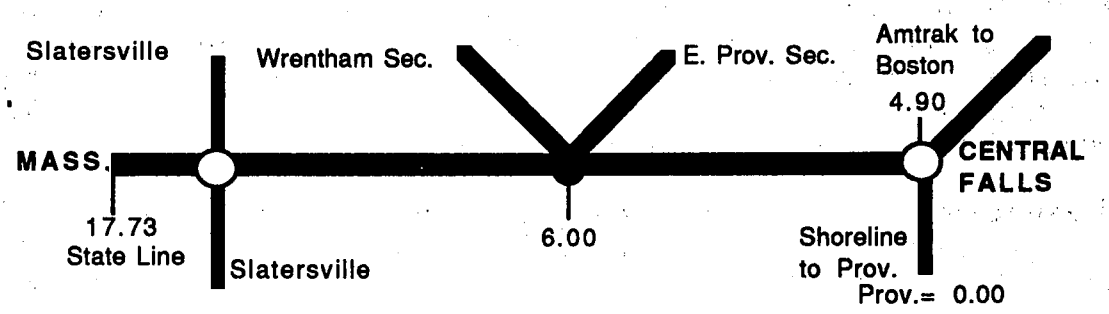
Military facilities served: None

Industry served: National Building Supply Company

Unusual traffic characteristics: None

History of the line: This stub is the remains of the abandoned Providence-Pascoag track, which is described in Part 661-04-04 (Abandoned Rail Lines).

04-02-05 Providence and Worcester Main Line



Owner: Providence and Worcester Railroad

I.C.C. Service Category: V

Operators:

Passenger: Providence and Worcester Railroad (intermittent excursion service only)

Freight: Providence and Worcester Railroad

Length: The P&W Main Line is 12.5 miles in length.

Location: This line runs from the Massachusetts state line in Woonsocket through North Smithfield, Cumberland, Lincoln and Central Falls to its Shore Line connection at "Lawn Tower" (in the City of Pawtucket).

Trackage rights: Providence and Worcester Railroad only

Physical Conditions:

Ballast: Stone
Clearance: 17'-7" Main St., Manville
Culverts: 6
Drainage: Good
Overhead bridges: 6
Surface: Good
Ties: Good
Track bridges: 21
Weight of rail: 115#

Signalization: None - The P&W Main line was one of the first rail lines in New England signaled throughout. However, during the time when the line was leased and operated by the New Haven Railroad, most of the signal system (and the second main track) were removed. Now, the P&W main line is a single track, unsignaled rail line except in the vicinity of the Providence Station Area where signals relating to the Shore Line are in operation.

Accomplishments: An extensive program of rehabilitation is planned over the next two years on this line. Currently underway and scheduled for completion in the fall of 1993, is the construction of a runaround track in P&W's Valley Falls Yard in the town of Cumberland. The runaround track will greatly improve switching efficiencies in the Valley Falls Yard for all of Rhode Island's rail service to all other branch lines.

Currently pending approval under LFRA program is the rehabilitation of the Woonsocket Viaduct at milepost 16.14 and the Blackstone River Bridge at milepost 5.73. The scope of work includes bridge deck timber and rail replacement (including rail/surface enhancements to the bridge approaches) along with the addition of steel grated walkways and hand rails on both bridge decks. This project is scheduled for completion in 1994.

A second pending grant with FRA would rehabilitate the Blackstone River Bridge at milepost 5.83. This would include tie and timber replacement in conjunction with steel rehabilitation to the top of the bridge deck. A second task proposed in this pending grant application consist of extensive tie/switch timber replacement and surface enhancements to the line between milepost 7.0 (in the vicinity of Mill Street, north of the Valley Falls Yard, in the town of Cumberland) and milepost 17.4 at the state line in the town of North Smithfield. Included in this task will be a subtask rehabilitating tie/timber and deck of the Blackstone River Bridge at milepost 10.88 in the town of Lincoln. This work is expected to be completed in 1994.

In addition, The P&W will undertake clearance enhancement projects(primarily through undercutting/lowering track) to support clearances of 20 feet 7 inches. This program will concentrate on two key choke points; the Arnold Street Bridge at milepost 16.39 in the city of Woonsocket and the Manville Bridge at milepost 12.65.

Grade Crossings: There are 17 public at-grade crossings over this line. Over the past ten years, all grade crossings on the P&W main line have been rebuilt, making extensive use of funds available under the federal highway "section 203" program . In general, the most modern techniques were used in re-building these crossings. Crossing signal systems were renewed as part of this program. The resulting rail/highway grade crossing on the P&W main line are in a physical condition that will minimize problems for the motorist and the railroad. No program to eliminate grade crossings by grade separation is anticipated.

The following crossing improvement projects are currently programed in the TIP:

CITY/TOWN	CROSSING	EXISTING PROTECTION	IMPROVEMENT SIGNAL	IMPROVEMENT SURFACE
CUMBERLAND	MILL ST(LONSDALE)	AUTO. GATES	X	
LINCOLN	SCHOOL ST	FLASHERS	X	X

Unusual physical features/track and structure problems: The P&W main line is built along the route of the Blackstone River. As such, it crosses the river numerous times and is often located adjacent to the riverbed. At present, however, the structural, bridge repair, washout prevention, and flood problems typical of such a rail-bed location are well under control. Track conditions are generally good, FRA class III or better in most areas.

Service frequency and freight density: While the majority of freight traffic on this line is through freight from P&W's Worcester, Massachusetts yards (and beyond) to the Providence area, local users of all descriptions exist all along the line. With some Sunday exceptions, local freight service is available throughout at least once per day. Traffic density between the Massachusetts State Line and and Valley Falls is less than 3 million gross ton miles per mile per year.

Military facilities served: None

Industry served: Commodities carried on the line are a very broad mix, including pulp-board, chemicals, malt beverages, general merchandise, and food products. An in-depth analysis of local industry on the P&W main line is not included here even though the industry served is vital to the economy of the state.

Unusual traffic characteristics: Deregulation and changed economic circumstances have diverted all of P&W's TOFC traffic on this line to other railroads or to highway transport. Since 1974, the railroad has carried out certain clearance projects and roadbed improvements to accommodate over-dimensioned and heavy traffic.

History of the line: The Providence and Worcester Railroad got its start in 1844 as the principal line of its present owner. This line has always operated as a single unit connecting the two cities, which gave the line its name. From July 1892 to February 1973 it was leased by the New York, Providence and Boston Railroad, and then by the New Haven, and finally by Penn Central. In 1972, the Penn Central railroad relinquished their 99 year lease of the Providence & Worcester, and in 1973 the P&W resumed independent operations over this line.

Freight Rail Use and Demand: The Providence and Worcester Main line extends from the Rhode Island/Massachusetts border through Woonsocket, North Smithfield, Cumberland, Lincoln and Central Falls. Approximately twenty percent of the firms targeted by the survey were located within the communities

serviced by this line. The surveyed firms were highly represented by manufacturers particularly textiles and fabricated metals.

This rail line carries all of the overhead traffic entering the state and terminating on all other lines. Despite this high traffic level, less than ten percent of this traffic is terminating or originating along this rail line. On the other hand overhead traffic to other lines is very high, resulting in a traffic density over four times the average Class III line haul density.

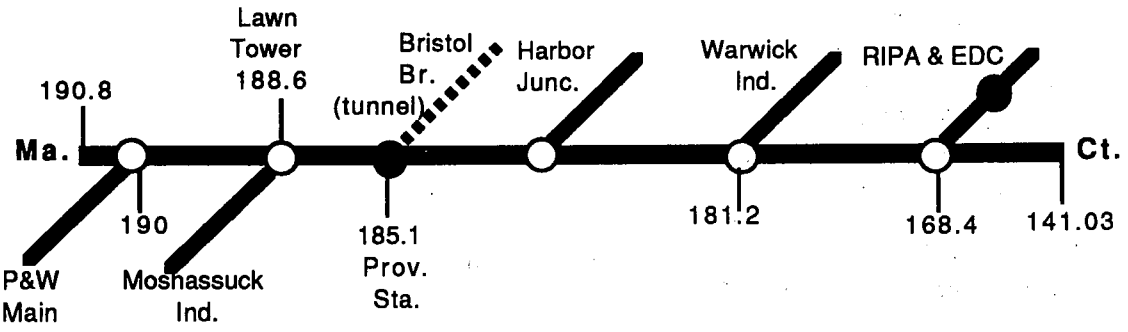
Response to the survey from firms located along the P&W Main line was high, particularly from firms in the fabricated metals and machinery sectors which represented 12 of 21 responses. The survey indicates that the overall use of rail service is very low, only two current rail users were among the 21 responses and only four respondents were directly located on the rail line. Despite this, almost one third indicated that they could divert at least 25% of their freight traffic to rail.

The average employment of the firms responding was 87 persons which is rather low compared to the profile of directly served manufacturing firms developed on a statewide basis from the survey. Nineteen of the survey respondents were not located on the rail line. Because of the smaller size and dispersion of firms away from the rail line little direct rail carload traffic could be anticipated based on the survey results. Truckload traffic subject to diversion was calculated to be equivalent to less than 300 carloads annually, however most any diversion to rail would be through intermodal methods based on the survey responses relating to location and the importance of door to door service to the respondents. An unusual characteristic of the survey respondents was that almost half reported that they were using containers although only one indicated that they were rail handled. The reported use of containers by firms along this line was the highest in the state.

The potential to market direct rail services from this line appear to be rather limited. The highest ranked factors affecting freight mode choices among the respondents were door to door service, and convenient loading/unloading facilities, followed closely by freight rates. There was also a very high agreement among the respondents that shiping policies of parent or associated companies and requirements of suppliers and customers were very important considerations roughly equal in importance to freight rates.

Overall, prospects for continued and expanded traffic on the P&W main are good although most increases will be derived from overhead traffic to other lines. The potential for large increases in overhead traffic will be particularly volatile if high/wide traffic is developed from the ports. There may also be some future concerns about direct access to this line if high/wide and intermodal traffic predominate and reach traffic saturation for this single track route.

04-02-06 Shore Line



Owner: National Railroad Passenger Corporation (Amtrak) The Shore Line is the Rhode Island segment of the Northeast Corridor, the major high-speed passenger rail corridor connecting Washington D.C., New York and Boston.

I.C.C. Service Category: V

Operators:

Passenger: Amtrak high speed passenger service (Northeast Corridor) Massachusetts Bay Transportation Authority (MBTA) providing commuter service between Providence and Boston.

Freight: The Providence and Worcester railroad claims permanent and perpetual freight service easements on the Shore Line. The P&W services shippers on 7 branch lines from the Shore Line, including the Port of Providence and the Quonset Point/Davisville industrial park.

Length: The Shore Line is 49.7 miles from m.p. 141.1 at the Connecticut border in Westerly to the Massachusetts border at m.p. 190.8 in Pawtucket.

Location: The Shore Line serves the municipalities of Westerly, Charlestown, Hopkinton, Richmond, South Kingstown, North Kingstown, Exeter, East Greenwich, Warwick, Cranston, Providence, Pawtucket, and Central Falls.

Trackage rights: Limited trackage rights are held by the State of Rhode Island to provide inter-city commuter service. Also the Providence and Worcester claims permanent and perpetual freight service easements, servicing shippers directly along the line.

Physical Conditions:

Ballast: Stone
Clearance: N/A
Culverts: N/A
Drainage: Good
Overhead bridges: 62
Surface: Good
Ties: Excellent (concrete ties)
Track bridges: 36 (16 highway, 20 others)
Weight of rail: 140#

Track Condition: The Shore Line track conditions have been upgraded to conditions in excess of FRA class VI (speeds up to 120 mph are anticipated) under the Northeast Corridor Improvement Program, which was completed in 1986. Previously, the speed limit was 79 mph for passenger trains except where curves, crossings, or stations mandated lower speeds. The two main tracks have welded rail, concrete ties, a well constructed roadbed, and sophisticated signaling.

Signalization: ATC required for operation on the Northeast Corridor.

Grade crossings: The Northeast Corridor Grade Crossing Elimination program is continuing on the Rhode Island segment of the Shore Line. Two crossings remain at the present time:

1) A public crossing at Wolf Rock's Road in Exeter, which is currently in the design phase of a grade separation project.

2) Caro's crossing (private) located in Westerly, was closed in late 1990. The crossing rights were aquired by RIDOT with funds from the Private Crossing Elimination Program.

Unusual physical features/track and structure problems: High/wide dimensional restrictions prevent freight access on the line to over-dimensioned loads. Electrification of the Shore Line was approved in late 1991 by Congress allowing for the development of high speed rail. At the time of this writing, the project was in the design stage. High speed rail is anticipated to be in service by 1997.

Service frequency and freight density: Amtrak runs ten trains per day (week days) in each direction. The Massachusetts Bay Transportation Administration (MBTA) operates five trains daily in each direction plus Saturday service. The P&W operates an average of 2 trains daily, which utilize the Shore Line to access various branch lines.

Military facilities served: The Shore Line provides access to the U.S. Navy installation and RI National Guard units located at the Quonset

Point/Davisville complex via the Quonset Point/Davisville industrial track network, which is operated by the Seaview Transportation Co.

Industry served: The Shore Line is the link to many of the freight branch lines in the state. The Quonset Point/Davisville Industrial Park via the QP/D Industrial tracks, and the Port of Providence via the Harbor Junction branch are major industrial centers dependent upon the Shore Line.

Unusual traffic characteristics: Of principal concern is the potential restriction of freight traffic due to a lack of interlockings, sidings, and passing tracks sufficient to allow both freight and passenger operations without conflict. High speed operations (120 mph) and the impending electrification will pose severe restraints on freight usage of the Shore Line.

History of the line: The Shore Line was the principal freight route in the region until the Penn Central merger and subsequent inclusion of the New Haven in 1969. At that time, Penn Central diverted almost all New England freight traffic to the former New York Central "Boston and Albany" line via Selkirk, New York. The Selkirk route remains today as the principal rail freight access to New England for through service rather than the Shore Line.

Freight Rail Use and Demand: The Amtrak Shore Line in Rhode Island extends from the Rhode Island/Massachusetts border at Pawtucket to the Rhode Island/Connecticut border at Westerly. The Providence and Worcester railroad claims permanent and perpetual freight service easements and services rail customers throughout it's length except for the track segment approximately one mile in length north of the Boston switch in Pawtucket. Direct rail freight service from the Shore line is currently provided to customers in Pawtucket, Providence, Cranston, Warwick, and North Kingston. The P&W railroad has the right to extend direct rail service to potential customers in other communities along the Shore line including East Greenwich, South Kingston, Charlestown, Richmond, Hopkinton and Westerly. Approximately fifty percent of the firms targeted by the survey were located within the communities serviced by this line. Because of the lines length (almost 50 miles), the potential market is very large. This market area overlaps many branch lines and includes direct rail customers at the beginning of certain branch lines where they run parallel on the Shore line right-of-way. Survey respondents using direct rail from the Pascoag Stub, Washington Secondary Line, and Warwick Industrial Line were allocated to the Shore Line because of this area of overlap. The firms targeted by the survey along the Shore line were highly represented by manufacturers particularly in the fabricated metals, rubber and plastics sectors.

This rail line receives about half of the overhead traffic entering the state from the P&W Main and terminating on all other lines. Of this, thirty percent of this traffic is terminating directly along this rail line. In the aggregate, overhead traffic to other lines is very high, resulting in a traffic density over two times the average Class III line haul density in addition to on segment traffic density approximately equal to the average Class III line haul density if the track length south of Davisville is factored out.

The survey response by firms located along the Shore line was relatively high, particularly from firms in the textile manufacturing sectors. Overall there were fifteen responses from the survey. Five of seven responses were from textile manufacturers concentrated in the Westerly area where there is no current direct rail service. Six respondents were in fabricated metals, rubber and plastics manufacturing sectors, and two were in the wholesale trade durables sectors.

Despite the overall good reponse to the survey, the potential for expanding direct rail service is low, in fact only two responses were from current or former rail users. Among the 15 responses only four firms were directly located on the rail line and five firms indicated that they could divert at least 25% of their freight traffic to rail.

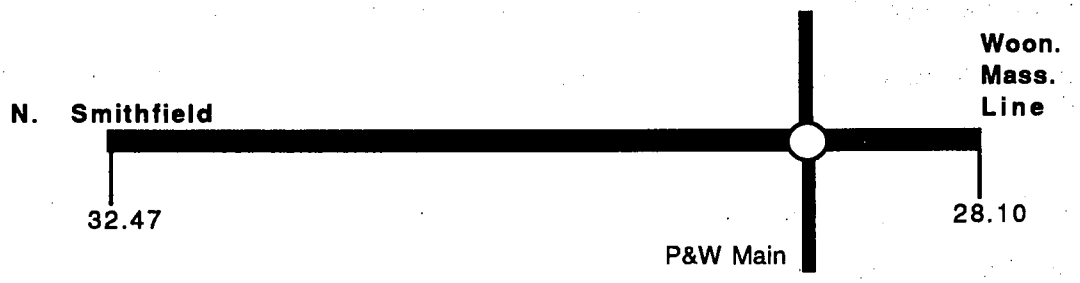
The average employment of the firms responding was 111 persons which is low compared to the profile of directly served manufacturing firms developed on a statewide basis from the survey. Nineteen of the survey respondents were not located on the rail line. Because of the smaller size and dispersion of firms away from the rail line little direct rail carload traffic could be anticipated based on the survey results. Truckload traffic subject to diversion was calculated to be equivalent to less than 500 carloads annually, however most any diversion to rail would be through intermodal methods based on the survey responses relating to location and the importance of door to door service to the respondents.

Overall, prospects for continued and expanded traffic on the Shore line are good particularly the Pawtucket to Cranston segment. Increases will be derived from both overhead and on segment traffic. The traffic segment from Pawtucket to Cranston has high potentials for the development of on segment traffic due to the large amount of parallel trackage, turnouts and sidings along the Amtrac right -of-way. Much of this trackage results from connections with the Moshassuck Industrial Track, Pascoag Stub and the active section of the Washington Secondary Track. This trackage is available for direct freight use without restrictions from Shore Line commuter traffic in most instances.

On the other hand the Shore Line segment from Hillsgrove to Westerly is restricted by Commuter operations on the line and only limited opportunities exist to expand direct rail service. Trackage associated with the junctions of the Pontiac secondary and Warwick industrial tracks at Bellefonte provide limited opportunities for direct service. At the present time at least one direct rail customer is currently using the service in this area. The majority of on segment traffic south of Cranston yard is terminating at Davisville where it is handled by the Seaview Transportation Company.

The Quonset Point/Davisville industrial park is the best opportunity to develop direct rail customers on this Shore line segment. Five companies in North Kingstown were targeted by the survey, all located within the industrial park. Three responses were received and all are current direct rail customers.

04-02-07 Slatersville Secondary Track



Owner: This line is owned by the Providence and Worcester Railroad with the exception of a small portion transferred to the Town of North Smithfield on June 19, 1984.

I.C.C. Service Category: V

Operators:

Passenger: none

Freight: Providence and Worcester Railroad

Length: The Slatersville Secondary is approximately 4.5 miles long.

Location: It is located in the City of Woonsocket and extends into the Town of North Smithfield. The Woonsocket end of the line actually extends into Massachusetts.

Trackage rights: Providence and Worcester Railroad only

Physical conditions:

Ballast: Gravel
Clearance: N/A
Culverts: 12
Drainage: Fair/Poor
Overhead bridges: 2
Surface: Fair
Ties: Fair
Track bridges: 5 (3 highway, 2 others)
Weight of rail: 100# - some 107#

Signalization: None

Grade crossings: There are eleven at-grade public crossings over this line.

The following crossing improvement projects are currently programed in the TIP:

CITY/TOWN	CROSSING	EXISTING PROTECTION	IMPROVEMENT SIGNAL	IMPROVEMENT SURFACE
N. SMITHFIELD	HEROUX	CROSS-BUCKS	X	X
N. SMITHFIELD	MEADOWBROOK RD		X	X
N. SMITHFIELD	STEEL ST	CROSS-BUCKS	X	X
WOONSOCKET	N. MAIN ST	CROSS-BUCKS	X	
WOONSOCKET	PROSPECT ST	CROSS-BUCKS	X	
WOONSOCKET	RAILROAD ST	CROSS-BUCKS	X	X
WOONSOCKET	ASYLUM ST	SIGNALS	X	X

Unusual physical features/track and structure problems: Track conditions are generally FRA class I

Service frequency and freight density: P&W's service is provided on an "as needed" basis and is available six days a week.

Military facilities served: None

Industry served: N/A

Unusual traffic characteristics: None

History of the line: The Slatersville Secondary was once part of a much longer line of the New Haven Railroad (now abandoned) which connected in Harrisville with another New Haven line, the "New York and New England main line" (also abandoned since the 1950's). The eastern portion of this line had its start as the New York and Boston Railroad (in Rhode Island) in 1846 and as the Charles River Railroad (in Massachusetts) in 1851. Through various acquisitions and mergers this line eventually became a part of the New Haven system. The western portion of the Slatersville line began as the Woonsocket and Pascoag Railroad in 1887. It was subsequently leased to the New York and New England Railroad in March 1891 and it began operating 9.5 miles between Woonsocket and Harrisville a month later. At Harrisville, it connected with a rail line that ran from Providence to Pascoag.

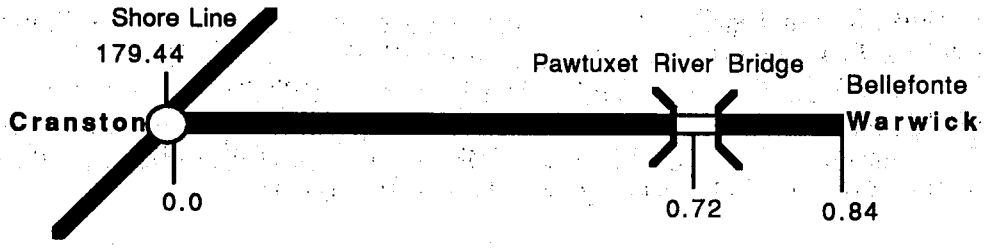
Freight Rail Use and Demand: The Slatersville Secondary Line is accessed from the Providence and Worcester Main line just north of the former Woonsocket depot. This line services customers primarily in an older industrialized area in the Forestdale section of North Smithfield. The potential market identified by the survey consisted of 28 firms primarily in the wholesale trade and textile manufacturing sectors. Most of the firms identified as part of the market for this line were located within the City of Woonsocket where potential users would most likely utilize the P&W Main line due to its much higher service frequency. The

Slatersville secondary has no overhead traffic to other lines and rail traffic density for on segment traffic is about 38% of the average Class III line haul density.

There were three responses from the survey. All of the survey respondents were in the wholesale trade or construction sectors. Two of the respondents are current rail customers and both were located directly on the rail line. The employment average for the respondents was 139 persons and the primary commodity received was finished goods. The primary commodity shipped was also finished goods. None of the survey respondents indicated that they would consider a diversion of their current freight traffic to rail.

The low survey result may not be indicative of the potential for increased rail freight demand from this line. Nevertheless the size of the industrialized area in North Smithfield serviced by rail is very limited. Furthermore new rail customers locating in the area who do not require direct rail service could utilize the P&W Main line through intermodal methods.

04-02-08 Warwick Industrial Track



Owner: Providence and Worcester Railroad

I.C.C. Service Category: I

Operators:

Passenger: None

Freight: Providence and Worcester Railroad

Length: The Warwick Industrial Track is 0.9 miles long.

Location: This line is located in Warwick and Cranston, and connects with the Shore Line in Cranston.

Trackage rights: Providence and Worcester Railroad

Physical Conditions:

Ballast: Sand
Clearance: N/A
Culverts: N/A
Drainage: N/A
Overhead bridges: N/A
Surface: Poor
Ties: Poor
Track bridges: Bellefonte Pond River Bridge is in poor condition
Weight of rail: 90#

Signalization: No signals exist except at the junction with the Shore Line.

Grade crossings: There are four public grade crossings, most of which are in a poor state of repair, especially those located in the City of Cranston.

The following crossing improvement projects are currently programed in the TIP:

CITY/TOWN	CROSSING	EXISTING PROTECTION	IMPROVEMENT SIGNAL	IMPROVEMENT SURFACE
CRANSTON	MILL ST	CROSS-BUCKS	X	X
CRANSTON	PARKVIEW BLVD		X	X

Unusual physical features/track and structure problems: Track conditions are generally FRA class I, although the Pawtuxet River railroad bridge is in very poor condition.

Service frequency and freight density: Service is on an "as needed" basis and is available six days per week.

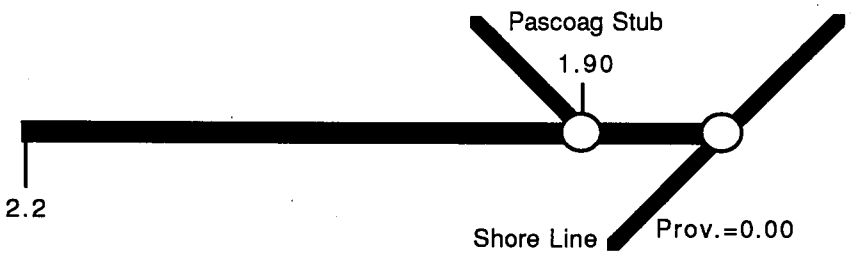
Military facilities served: None

Industry served: The principal costumer was a chemical plant at the end of the line which closed in 1985. Current usage is confined to a packaging materials firm located at the junction with the Shore Line. Service to this customer may not require actual access to the Warwick Industrial Track.

Unusual Traffic characteristics: None

History of the Line: This line was initially part of the UER (United Electric Railways Co.) before being set up as the Warwick Railway in 1949. It was aquired by the Providence and Worcester Railroad in 1981.

04-02-09 Washington Secondary Stub



Owner: The remaining active portion of the Washington Secondary Track is owned by Amtrak. Providence and Worcester Railroad maintains freight operating rights over this segment.

I.C.C. Service Category: III
Operators:

Passenger: None

Freight: Providence and Worcester Railroad

Length: The 2.2 mile length on the schematic, delineates the Amtrak property line limit. This point represents the beginning of the abandonment by the P&W Railroad Co.

Location: The Washington Secondary line serves the Providence municipality.

Trackage rights: The Providence and Worcester, has the sole operating rights over this track segment.

Physical Conditions:

Ballast: Stone and gravel
Culverts: 26
Clearance: N/A
Drainage: Fair to good in the other areas.
Overhead bridges: 10
Surface: Poor
Ties: Poor
Track bridges: N/A
Weight of rail: 131 - 107 #

Signalization: None

Grade crossings: There are 2 industrial tracks which cross city streets to service customers.

The following railway crossing projects have been scheduled in the bi-ennial element of the TIP:

CITY/TOWN	CROSSING	EXISTING PROTECTION	IMPROVEMENT SIGNAL	IMPROVEMENT SURFACE
PROVIDENCE	HARRIS AV COSTO		X	X
PROVIDENCE	HARRIS AV PROD		X	X

Unusual physical features/track and structure problems: This is the remnant of much longer line serviced from Track 7 out of Providence Station.

Service frequency and freight density: P&W maintains intermitten service on this line.

Military facilities served: None

Industry served: The loss of major industrial rail users has resulted in the re-allocation of LRFA funds originally programed to rehabilitate this line. Without major new industrial users locating along this rail line, prospects for re-establishing rail service is remote.

Unusual traffic characteristics: None

History of the line: This line was abandoned by the P&W from milepost 2.2 to 16.75 in June of 1990. (See abandoned section for history)

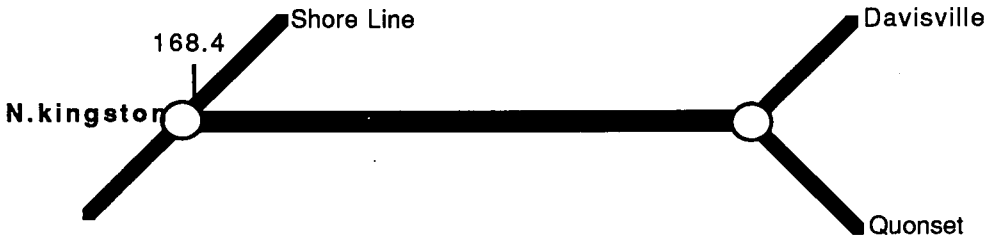
04-03 State Owned Rail Lines

04-03-01 Introduction

The State of Rhode Island has sizeable ownership interests in the state's railroad infrastructure. The most substantial holdings are by the Rhode Island Department of Transportation, which currently owns approximately 38 miles of rail line. In addition, the state acquired trackage rights over the Amtrak Shore Line under USRA's "Final System Plan" consisting of 49.7 miles of track in Rhode Island.

The Rhode Island Port Authority and Economic Development Corporation owns approximately 26 miles of rail line in the Quonset Point/Davisville Industrial Park in addition to Navy yard track that is still owned by the military. A substantial amount of this track is leased to the Seaview Transportation Company.

04-03-02 Quonset Point/Davisville Industrial Track



Agency/Owner: The Rhode Island Port Authority and Economic Development Corporation.

I.C.C. Service Category: V

Operators:

Passenger: None, although RIDOT is currently investigating the feasibility of staging commuter operations from the Davisville yard if the current MBTA commuter service is extended south of Providence.

Freight: Service is provided by the Seaview Transportation Company, which leases track from the RIPA & EDC and interchanges cars with the P&W.

Length: Seven "route" miles consisting of 12 miles of track including main line track servicing the Quonset Point and the Davisville sections of the industrial park and an extensive network of sidings, yard track and spur track serving the port and various industrial facilities.

Location: The entire system is located within the Town of North Kingstown.

Trackage rights: The Seaview is the designated operator over this trackage and has the sole operating rights. In the event that Seaview is unable to provide service, the U.S. Navy and Electric Boat have the right to use the track.

Physical Conditions:

Ballast: Stone and gravel
Clearance: N/A
Culverts: N/A
Drainage: Good
Overhead bridges: 1
Surface: Good
Ties: Good
Track bridges: N/A
Weight of rail: Mostly 100# with some light rail on the Davisville main

Signalization: None, except at the interchange with the Shore Line

Accomplihments: A grant application is pending with the FRA through the LFRA program to provide rehabilitation to the lead track connecting the Seaview System to the Shore Line. This segment of the Seaview line extends from milepost 0 to .12 and requires tie and switch timber replacement along with associated surface enhancements to replace a badly worn switch. This rehabilitation is scheduled for the summer of 1993, pending FRA approval and will remedy a possible derailment which could potentialy foul the Shore Line. The Rhode Island Port Authority/Department of Economic Development will provide a 30% match to federal funds for this project which totals $69,107.

Grade crossings: There are eight public at-grade highway crossings over this line. In addition, there are dozens of crossings in the Quonset area and the Davisville military base as spur lines serve the various buildings and other sites in the industrial park.

The following railway crossing projects have been scheduled in the bi-ennial element of the TIP:

CITY/TOWN	CROSSING	EXISTING PROTECTION	IMPROVEMENT SIGNAL	IMPROVEMENT SURFACE
N. KINGSTOWN	2 ND ST	CROSS-BUCKS	X	X
N. KINGSTOWN	3 RD ST	CROSS-BUCKS	X	X
N. KINGSTOWN	LEXINGTON SW SPUR	CROSS-BUCKS	X	X
N. KINGSTOWN	RICHMOND ST	CROSS-BUCKS	X	X
N. KINGSTOWN	SARATOGA ST	CROSS-BUCKS	X	X

Unusual physical features/track and structure problems: Generally, track conditions are relatively good throughout the RIPA & EDC system. Isolated problems exist that should be addressed before service interruptions occur. Light rail on the Davisville main is deteriorating and should be replaced. The Davisville "Y" requires rehabilitation as well as the lead track into the industrial park from the Shore Line.

Service frequency and freight density: The Providence and Worcester Railroad services this line five times per week.

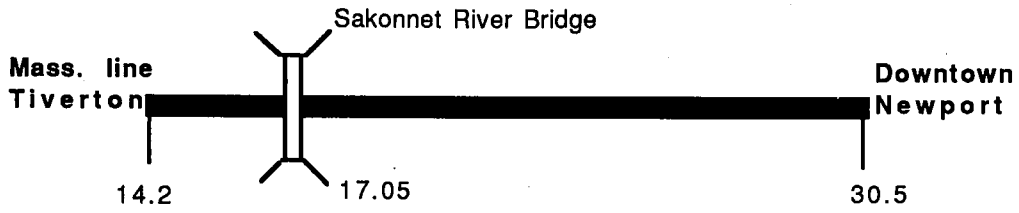
Military facilities served: This line serves the remaining US Navy activities at Davisville, although this facility is scheduled to be deactivated by the Navy in September 1994. The port facility at Davisville is also designated as a "Load Out" point for the Navy. Units of the Rhode Island National Guard are located at Quonset Point and have utilized rail service in the past for the movement of heavy equipment.

Industry served: This line serves a major facility of General Dynamic's Electric Boat Division, a defense contractor. This line also serves a building materials firm, plastics manufacturer and other small users.

Unusual traffic characteristics: The Quonset Point/Davisville Connector highway project, which is currently under design, could result in track relocation, removal of yard track and several spurs. Another project under design by the RIPA & EDC is the West Davisville industrial area, which will require two new at-grade crossings and a temporary yard crossing to be constructed. This work may result in short term disruptions in operations for the Seaview, but it is felt that this work will result in improved operating conditions and possibly opportunities to generate more rail oriented business in the West Davisville section of the industrial park.

History of the line: The Quonset Point/Davisville industrial park was formerly a US Navy Base consisting of the Naval Air Station at Quonset and Naval Construction Battalion "Seabee" Center at Davisville. Most of the track on this line was constructed between 1941, when the base was built, and 1955. In 1973, the Quonset base was closed and activities at the Davisville base were substantially scaled down. Most of the former naval base has been turned over to the Rhode Island Port Authority, which has redeveloped it into an industrial park. The rail infrastructure remains substantially intact as well as the airport and port facilities.

04-03-03 Newport Secondary Track



Agency/Owner: The Rhode Island Department of Transportation owns the line from the Rhode Island/Massachusetts border at Tiverton to the end of the line in Newport, a distance of 16.3 miles. Ownership of the line in Massachusetts is by the MBTA.

I.C.C. Service Category: V

Operators:

Passenger: Tourist/excursion service is provided by the Newport Railroad Foundation and museum. The Newport Star Clipper Dinner Train also operates over this line providing a dinner train service. The Newport Star Clipper Dinner Train is currently involved in Chapter Eleven bankruptcy proceedings.

Freight: The Providence & Worcester Railroad has trackage rights to service this line. Freight service is currently suspended due to deterioration and damage to the Sakonnet River swing bridge. In February 1988, the swing bridge was damaged by a barge that hit one its piers, jarring the bridge and rendering it inoperable. The State and the owners of the barge company are currently involved in litigation of the liability for damages.

Length: The Newport Secondary Line extends 16.3 miles from the Massachusetts/Rhode Island border at Tiverton (mp 14.2) to Newport (mp 30.5).

Location: The Line runs along the west shore line of Aquidneck Island and serves the communities of Tiverton, Portsmouth, Middletown and Newport.

Trackage rights: The Providence and Worcester Railroad has exclusive rights to freight service over this line. The National Rail Foundation has trackage rights to operate an excursion service from mp 21.7 in Portsmouth to mp 30.5 at the Goat Island Connector. The Newport Star Clipper Dinner Train also operates over the same trackage from the Goat Island connector to the Kaiser run-around at Portsmouth, south of the swing bridge.

Physical Conditions:

Ballast: Gravel
Clearance: N/A
Culverts: 54
Drainage: Poor
Overhead bridges: 10
Surface: Fair
Ties: Fair
Track bridges: 14 (1 major swing, 6 highway, 7 river)
Weight of rail: Most is 80# with some 107#

Signalization: None, except at the movable bridge.

Accomplisments: Settlement of a suit by the state for damages to the Sakonnet River swing bridge is pending. It is not known at this time whether the settlement will be sufficient to recover the cost of rehabilitation or replacement of the damage incurred.

Grade Crossings: There are 28 public at-grade highway crossings over this line.

The following railway crossing projects have been scheduled in the bi-ennial element of the TIP:

CITY/TOWN	CROSSING	EXISTING PROTECTION	IMPROVEMENT SIGNAL	IMPROVEMENT SURFACE
MIDDLETOWN	CROSSING "F"	FLASHERS	X	X
MIDDLETOWN	CROSSING "H"	FLASHERS	X	X
MIDDLETOWN	CROSSING "I"	FLASHERS	X	X
MIDDLETOWN	CROSSING "J"	FLASHERS	X	X
MIDDLETOWN	CROSSING "K"	FLASHERS	X	X
MIDDLETOWN	CROSSING "L"	FLASHERS	X	X
NEWPORT	ELM ST	CROSS-BUCKS	X	X
NEWPORT	POPLAR ST	CROSS-BUCKS	X	X
PORTSMOUTH	BAYVIEW RD	CROSS -BUCKS	X	X
PORTSMOUTH	BERNBE AV		X	
PORTSMOUTH	BROWN AV ("B" crossing)	FLASHERS	X	X
PORTSMOUTH	COREY LN	CROSS-BUCKS	X	X
PORTSMOUTH	WILLOW LN	CROSS-BUCKS	X	X

Unusual physical features/track and structure problems: All of the track on the Newport Secondary Line is at least FRA class I and is maintained at least at that level by the Dinner Train as a condition of operation on the line. The state has spent over $800,000 on this line since it aquired it in 1979. The Newport Star Clipper Dinner Train has indicated a need for the construction of a side track in the vicinity of the Newport Naval Base to improve operations and avoid conflicts with the Newport Railroad Foundation tourist/excursion operation.

Service frequency and freight density: Freight service is suspended on this line. The excursion services run an average of twelve trips a week with up to six trips per day on peak holiday weekends in the summer.

Military facilities served: This line serves three military facilities on Aquidneck Island: the Naval Education and Training Center (Newport Naval Base), the Naval Underwater Systems Center, and the Defense fuel supply depot at Melville.

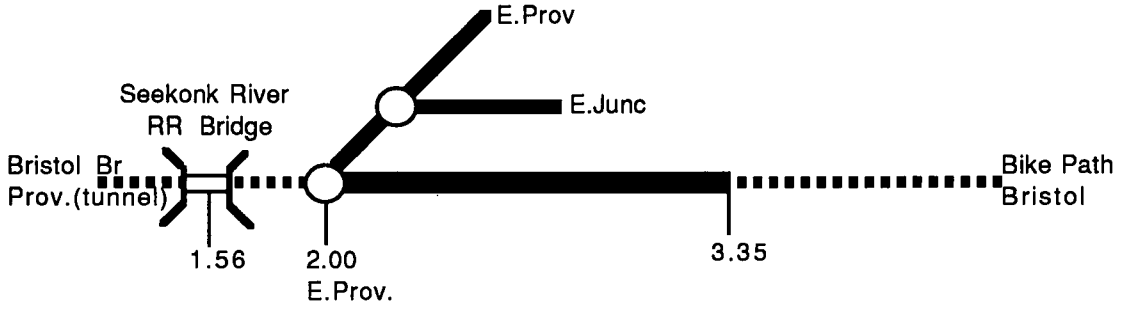
Industry served: This rail line once served large manufacturing and distribution operations, which have closed down since1985. The Rhode Island Department of Economic Development is attempting to market the available industrial-zoned parcels and attract industrial activity to this area. It is unknown whether these efforts will succeed in building up industrial activity sufficient to re-establish rail freight service.

Unusual traffic characteristics: The Sakonnet River bridge must be repaired/rehabilitated in order to resume rail service to Aquidneck Island.

History of the line: The Newport track started as the Newport and Fall River Railroad in 1846. It joined the Old Colony and Fall River Railroad in 1862 to become the Old Colony and Newport. This became the Old Colony Railroad, which dominated rail service east of the Boston and Providence main line until acquisition by the New Haven in 1895. For many years, this rail line was heavily used by the wealthy summer residents of Newport, often evidenced by large numbers of private rail passenger cars at the Newport terminal. More recently, heavy military use (both passenger and freight) existed, reaching a peak during World War II. Passenger service then declined before terminating in the early 1950's when the line became part of the New Haven system and ultimately the Penn Central.

The Newport Secondary line between milepost 21.7 and 30.5 was acquired by the state in 1979 through the use of federal and state funds that became available under the Regional Rail Reorganization Act. Aquistion of the line by the State of Rhode Island between milepost 14.2 and 21.7 was accomplished on September 22, 1983, from the Providence and Worcester Railroad. The Providence and Worcester retained an operating easement over the line.

04-03-04 Bristol Secondary Track



Agency/Owner: Rhode Island Department of Transportation.

I.C.C. Service Category: V

Operators: Providence and Worcester Railroad.

Passenger: None (although RIDOT is studying the re-establishment of commuter operations over the entire line)

Freight: Providence and Worcester Railroad

Length: The line extends 15.7 miles from the tunnel at North Main Street in Providence to mp 15.7 in Bristol.

Location: The Bristol Secondary track serves the municipalities of Providence, East Providence, Barrington, Warren and Bristol. The line joins the East Providence Secondary and the East Junction Line in East Providence and will serve a major port development under construction by the Providence and Worcester Railroad at Wilkes Barre Pier.

Trackage rights: Exclusive trackage rights for freight service are held by the Providence and Worcester Railroad.

Physical Conditions:

Ballast: Gravel and stone
Clearance: N/A
Culverts: N/A
Drainage: Poor
Overhead bridges: 3
Surface: Poor
Ties: Poor
Track bridges: 2
Weight of rail: 107#

Signalization: None

Grade crossings: There is one public at-grade highway crossing over the rail line, excluding those crossing the bike path. This public crossing will be rehabilitated as part of RIDOT's East Providence Industrial Highway project.

Unusual physical features/track and structure problems: On the track segment used for freight, track conditions are marginal. From mp 3.35 to the end of the line in Bristol at mp 15.7 the line becomes the East Bay Bike Path. The bike path extends from the Washington Bridge in East Providence to Bristol and extends to India Point Park in Providence following the Bristol Secondary Track right-of-way for much of its length. It should be noted that the bike path is considered an interim use with the state retaining the line for future long term rail use. The Seekonk River Railroad Bridge remains intact in the open position. The last known operation of the bridge was in February 1981.

Service frequency and freight density: There is no freight service on the line at the present time.

Military facilities served: None

Industry served: Construction of the East Providence ("South Quay") Port Facility by the Providence & Worcester railroad is anticipated to develop significant rail traffic on this line. It is also hoped that completion of the pier will attract industrial usage in the area.

Unusual traffic characteristics: RIDOT is reserving the bascule (counterpoised) bridge and the Providence East Side Tunnel for the establishment of commuter services. Should this service be established, commuter parking areas and track re-alignments may be required on the "Wye" property on the East Providence side to accommodate the commuter operations. The Providence Metro Study concluded that the structural rehabilitation of the East Side Tunnel is feasible. However, further study would be required to develop a complete scope of work and estimate of cost. The Seekonk River Bridge is still under study and further study is required to assess ridership projections and the appropriate mode of mass transit.

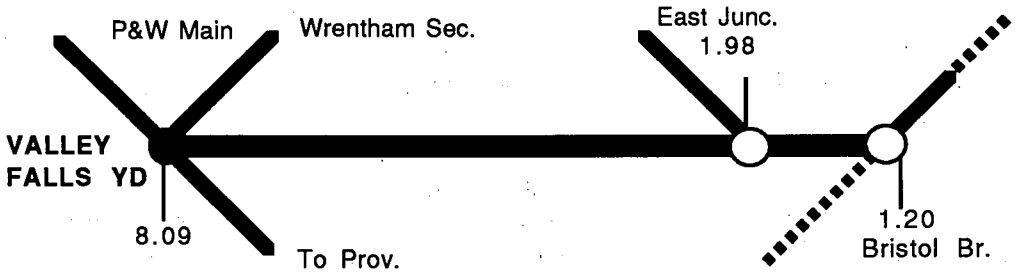
History of the line: The Bristol Secondary Track was once the main line of the Providence, Warren and Bristol (PW&B) railroad. The PW&B was formed in 1850 in Rhode Island and in 1851 in Massachusetts. This line, along with the connecting Fall River, Warren & Bristol became part of the Boston & Providence in 1873. It was later transferred to the Old Colony in 1875. The line was later acquired by the New Haven in 1895. For many years, this line was electrified, and passenger service was provided by the New Haven using multi-unit electric equipment.

A tunnel between the East Side of Providence and downtown Providence was constructed between 1906 and 1908. Although the tunnel still exists, the bridge that carried it over North Main and Canal Streets to the downtown Providence train station was removed when the Amtrak Main Line was relocated and the Providence Station built in the early eighties.

Following acquisition by the Penn Central system and its subsequent bankruptcy, the line was substantially acquired by the state of Rhode Island from Conrail in October, 1976. As part of this acquisition, the state also obtained operating rights from m.p. 1.7 to m.p. 1.9 (referred to as the "Wye") from Conrail. In May 1982, P&W acquired property ownership between m.p.'s 1.7 and 1.9 from Conrail.

Currently the ownership of this property is being disputed through litigation initated by the state as a result of the April, 1986 sale of the property by the P&W to Promet Corporation. The state has requested that the Superior Court declare the sale void and require P&W to offer the property to the state, in additon to recognizing the state's operating rights to both the north and south legs of the "Wye". Testimony has been given by both sides but this case has not been decided by the courts as of this writing.

04-03-05 East Providence Secondary Track



Owner: The East Providence Secondary line was previously owned by the Providence and Worcester Railroad, who acquired it from Conrail in 1981. The Rhode Island Department of Transportation acquired the entire rail line in 1982 to facilitate the construction of the Pawtucket Industrial Highway. The land over which the tracks lie in the city of Pawtucket is now owned by the city; ownership of the track and structures is held by RIDOT. The track segment in the city of East Providence is owned by RIDOT

I.C.C. Service Category: V

Operators:

Passenger: none

Freight: Providence and Worcester Railroad

Length: The line extends approximately 7 miles southeasterly from P&W"s Valley Falls Yard to East Providence where it joins P&W's East Junction track and the P&W/RIDOT Bristol Secondary Track.

Location: This line serves Cumberland, Pawtucket, and East Providence and extends approximately one-half mile (between Cumberland and Pawtucket) through the southeast corner of Attleboro, Massachusetts.

Trackage rights: Providence and Worcester Railroad only

Physical Conditions:

Ballast: Crushed stone
Clearance: N/A
Culverts: N/A
Drainage: Poor
Overhead bridges: 0
Surface: Good
Ties: Good
Track bridges: 2
Weight of rail: 107#

Signalization: none

Accomplishments: The Springs Street crossing in the town of Cumberland and the Pawtucket Avenue crossing in the city of East Providence were upgraded. These upgrades included surface improvements and the installation of auto gates at each of these crossings.

Grade Crossings: There are 24 public at-grade crossings over the line. There are also two unnamed private crossings in East Providence. The following crossing improvement projects are currently programed in the bi-ennial element of the TIP:

CITY/TOWN	CROSSING	EXISTING PROTECTION	IMPROVEMENT SIGNAL	IMPROVEMENT SURFACE
E. PROVIDENCE	BOURNE AV	CROSS-BUCKS	X	X
E. PROVIDENCE	MAURAN AV	CROSS-BUCKS	X	X

Unusual physical features/track and structure problems: N/A

Service frequency and freight density: Service is available on this line three days per week and on an as-needed basis.

Military facilities served: none

Industry served: This is a heavily used line because of the significant local industrial traffic. Port facilities planned for its southern end could contribute a large amount of through traffic on this line when completed.

Unusual traffic characteristics: N/A

History of the line: The East Providence Secondary was part of the original Providence and Worcester Railroad. It ceased to be part of that railroad's main line when the present connection south from Valley Falls to Providence was built. Before the P&W regained independence from the Penn Central in February of 1973, the New Haven and Penn Central had designated this line as the "India Point" branch because it reached the India Point section of Providence via a non P&W drawbridge over the Seekonk River. This drawbridge had been abandoned in 1965 prior to P&W's resumption of independent operations.

Freight Rail Use and Demand: The East Providence Secondary line extends from the Central Falls Yard on the P&W Main line through Cumberland, Pawtucket and East Providence. This rail line passes through areas of these communities that are heavily industrialized, therefore a large potential market for rail freight service exists. Approximately thirty percent of the potential rail users targeted by the survey were located within these communities. The East Junction Secondary line also serves East Providence customers and receives overhead traffic from the

East Providence Secondary. Overhead traffic on this line is approximately twenty percent of total traffic and as such it represents a small constituent part of the rail line's total traffic. However, if a container port at East Providence ("South Quay") Port Facility is completed and successfully marketed, overhead traffic originating from the Bristol Secondary line serving the pier area will increase markedly and insure its continued efficient operation. At the present time on segment traffic is high, about 90% of the average Class III line haul density.

There were eight responses from the survey. The survey respondents were highly represented by manufacturing firms in addition to firms in the wholesale trade sector. Five of the eight responses were from current direct rail customers. The employment average for the respondents was 267 persons and the primary commodity received was bulk materials closely followed by finished goods. The primary commodity shipped was finished goods.

The survey results indicated that over half would consider a diversion to rail of at least 25% of the their existing freight traffic. Exclusive of one very large shipper, and prospects for serving a proposed coal fired power plant, a traffic base of 2,800 tractor trailer loads could be subject to diversion. Most commonly, survey respondents cited intermodal considerations such as establishment of a container port and rail/truck transfer facilities as important factors along with lower costs to promote rail freight usage.

The East Providence Secondary line benefits from a high concentration of manufacturing firms constituting a favorable market for rail service. A relatively large number of sidings, spurs and team tracks are also availble which facillitates the use of direct rail services. Prospects for stable and continued rail service on this line are good. Along with a good manufacturing base to market direct rail services, the potential to develop overhead rail traffic will also tend to insure continued high service levels.

04-04 Abandoned Rail Lines

04-04-01 Introduction

Over 120 miles of railroad in Rhode Island have been abandoned or (in the case of the Southern New England Railroad) constructed but never operated. Some of the rights of way have been well preserved and even remain in public ownership; others are physically intact but in discontinuous private ownership; still others have long ago been destroyed by highway construction, general development, and the forces of nature. Figure 661- 04-(15) shows those lines for which locational information exists.

In general, these lines were either branch lines to a small community or port facility which no longer could support rail service, or a line that was once competitive with another nearby line and was no longer needed once the New Haven's monopoly in southern New England had acquired both lines.

04-04-02 Providence-Pascoag Line

First incorporated as the Woonasquatucket Railroad, this line (approximately 20 miles) was re-incorporated as the Providence and Springfield Railroad in 1872. One reported plan was to connect with the Providence, Webster, Massachusetts Line approximately 10 miles from Pascoag to the Boston and Albany main line. Indeed, the B & A acquired the P.W. & S in 1884; however, this through route was not established by the B&A. This line was acquired by the N.Y. & N.E. in 1890 and extended beyond Pascoag to a connection with N.Y. & N.E.'s main line at Douglas Junction in Massachusetts. However, the N.Y.& N.E. extended northwest from Douglas Junction only as far as Southbridge, Massachusetts-- well short of the Springfield goal that was the original reason for construction of this route. Connection with the B&A at Webster was established but never heavily used under the New Haven's ownership.

Thus the Providence and Springfield Railroad never became much more than a local service route of the New Haven railroad (which acquired control of the N.Y. & N.E. in 1895). It remained in service as a freight route of the New Haven until 1962, when route was abandoned in stages. The southern end of this line was a connection with the Shore Line in Providence at Olneyville. Communities served included Manton, Centerdale, Esmond, Georgiaville, Oakland, Harrisville and Pascoag. At Harrisville, there was a connection with a route from Woonsocket (via Slatersville).

04-04-03 Pascoag-Massachusetts Line

This route (Douglas Junction, approximately 4.5 miles in Rhode Island) was built by the N.Y. & N.E. in the early 1890's as an extension of the previously described Providence-Pascoag route. It was abandoned in 1937.

04-04-04 Slatersville-Harrisville Line

This line (approximately 5.5 miles) was part of the Woonsocket and Pascoag Railroad which was incorporated in 1887 and was leased by the N.Y. & N.E. in 1891 (before it was built). This, along with N.Y. & N.E.'s routes north of Woonsocket, at last gave the N.Y. & N.E. a fully controlled through route between Boston and Providence. However, the route was too long to be practical. Also, the existence of N.Y. & N.E.'s main line a few miles to the north in Massachusetts made this line quite useless except for local service to the intermediate communities of Glendale and Nasonville. The line was abandoned between Slatersville and Harrisville in 1937. It is a clear example of a line that probably should never have been built.

04-04-05 Washington-Connecticut/Plainfield Line

This route (approximately 9.8 miles in Rhode Island) has been previously discussed at length in the description of the Washington branch. What some people once believed (and still believe) to be the best potential route for passenger rail between Boston and New York is now a linear state park. The communities of Greene and Summit have received no rail service since abandonment of the line west of Washington in 1968.

04-04-06 Pontiac

The Hope Line line (5.8 miles) was incorporated as the Pawtuxet Valley Railroad in 1868 and became an extension of the Pontiac Branch Railroad (both of these small railroads were under control of the New York, Providence, and Boston by 1881). Communities served included River Point, Clyde, Harris, Arkwright, Fiskeville and Hope. Except for a short piece of track (attached to the Washington branch) near Clyde, all of this line was abandoned as follows:

Pontiac-River Point	1924
Arkwright-Hope	1951
River Point-Arkwright	1964

The Pontiac Secondary extended from the Shore Line in Cranston to an end point known as "Pontiac" in the city of Warwick. The Pontiac Branch Railroad was incorporated in 1875 and was constructed from Warwick through Pontiac to a connection with the Hartford, Providence and Fishkill Railroad (today's Washington track) at River Point. It was leased to the New York, Providence and Boston railroad in 1891 and merged into the NYP&B in 1895. This branch extended beyond River Point (over the tracks of the Pawtuxet Valley Railroad) to Hope, a distance of 3.2 miles. Abandonment of 2.6 miles between Pontiac and River Point (in 1924) reduced this branch to its present length. The last 1.8 miles of this line (from a point in Cranston known as "Howard" to Pontiac) has been out of service since the early 1970's because of a lack of demand for service and poor track conditions. The line was acquired by the P&W on April 1, 1976, pursuant to USRA's Final System Plan. Permission was granted by the ICC to the P&W to abandon this line in October of 1991.

04-04-07 Warren-Massachusetts/Fall River Line

The Warren-Massachusetts/Fall River Line extended approximately 2 miles in Rhode Island. This line started as the Fall River, Warren & Providence Railroad in 1862. The Boston and Providence Railroad acquired control of this route (and the Providence, Warren and Bristol) in 1873. This triggered a major conflict with the rival Old Colony Railroad, which saw the B&P invading O.C.'s "territory" in Fall River. When the Old Colony threatened to build a parallel line into Providence and to the steamship docks at Bristol, a major invasion of the B.P.'s territory, the B.P. compromised by transferring (in 1875) financial control of the F.R.W.P. to the Old Colony. In 1880, the Old Colony leased the entire Boston and Providence, thus placing the entire Providence-Fall River route under single control. This route was operated often using electric multi-unit cars by the Old Colony and later by the New Haven until a major.dispute with the City of Fall River over the costs of the use of the Taunton River Bridge triggered abandonment in 1937.

04-04-08 Valley Falls-Massachusetts Line/Franklin

This line (approximately 5.5 miles in Rhode Island) is part of the Rhode Island and Massachusetts Railroad which was previously discussed in the description of the Wrentham branch (see Part 04-02-12). The route of the RI & Massachusetts was northeasterly from Valley Falls to Adamsdale, Massachusetts, and then northwesterly back into Rhode Island at a point south of Abbott Run. The route continued north through Arnold Mills, Diamond Hill and Grant Mills before crossing back into Massachusetts and on to Franklin. The entire northern part of this route (from Adamsdale to Franklin) was abandoned in 1941. A very short section in Rhode Island (between the present northern end of track near Valley Falls to the Massachusetts line south of Adamsdale) was abandoned as part of Penn Central's abandonment of the middle of the Wrentham branch in 1963.

04-04-09 Wood River Branch

The Wood River Branch (Wood River Junction to Hope Valley) was an independent railroad well into the twentieth century before becoming part of the New Haven. The line was approximately 5.5 miles long, and it was abandoned in 1947.

04-04-10 Wickford Junction/Wickford Landing

The Wickford Junction track had its start as the "Newport and Wickford Railway and Navigation company". It was approximately 2.5 miles long and provided a convenient link between the Shore Line and the waterfront at Wickford Landing where (presumably) connections could be made with ships of the same company for completion of a trip to Newport. It remained an independent company until well into the 20th century before becoming part of the New Haven. The fraction of mile from Wickford to Wickford Landing was

abandoned in 1938. The track from Wickford Junction to Wickford was abandoned in 1963.

04-04-11 East Providence/India Point Line

The East Providence/India Point Line was one of the earliest parts of the Boston and Providence Railroad. The line was opened in 1835 by the B&P's predecessor company, "The Boston and Providence R.R. and Transportation Company". The line was approximately 0.5 miles in length and connected the southern portion of the original B&P main line (today's East Junction branch) in East Providence with the India Point portion of Providence via a movable bridge, which still stands (in the open position) just south of the bridge that carries route I-195 across the Seekonk River. This line was abandoned in 1965. India Point is now a public waterfront park.

04-04-12 Harbor Junction Wharf

Small sections of the Harbor Junction wharf system of track, which included a portion of street rail in the northern section of Allen's Avenue, were removed from service in the 1960's and early 1970's.

04-04-13 Westerly/Watch Hill Line

The Westerly/Watch Hill line was approximately 5 miles in length and was known as the Pawcatuck Valley Railroad. It was operated as an independent railroad into the twentieth century and later abandoned.

04-04-14 Bellefont/Oakland Beach

The Bellefont/Oakland Beach track was a 7.6 mile extension of the present southern end of the Warwick Railway. It was built by the Warwick Railway in 1875 and was acquired in 1879 by the Rhode Island Central Railroad, which in turn was acquired in 1881 by the New York, Providence and Boston Railroad. The N.Y./P&B's successor, the New Haven, sold this line in 1899 to a street car railway that was liquidated in 1920. Later, portions of it became the "Buttonwoods division of the Union Electric Railway". The northern 0.9 mile part of this 8.5 mile line became the Warwick Railway. In 1981 the Warwick Railway was acquired by the Providence and Worcester Railroad Company.

04-04-15 Narragansett Pier Line

The Narragansett Pier Railroad was built in 1876, and once extended from the Shore Line at Kingston station in the Town of South Kingstown, a distance of approximately nine miles. At Narragansett Pier, this line met ferry boats to various islands in Narragansett Bay. Considerable passenger traffic between these vacation islands, the Narragansett resort area itself, and the New York trains on the Shore Line once existed.

Subsequent to World War II, the portion of this railroad between Narragansett Pier and Peacedale was abandoned, a distance of approximately 2.5 miles. This abandonment resulted in the termination of regular scheduled rail passenger service on this line. However, freight service and limited tourist passenger service continued between Kingston and Wakefield through the 1970's.

All rail service ended in 1979, and following a change in ownership in 1981, the line was abandoned and much of the track and structures were removed. During 1982, the Town of South Kingstown acquired the portion of the right-of-way between the Saugatucket River and the intersection of Charles and Robinson streets. The remaining portions of this line west of Wakefied remain intact in private ownership.

04-04-16 Washington Secondary Track

The Washington Secondary started out as the Rhode Island Railroad in the late 1840's and was first operated in 1849 as part of the Hartford, Providence and Fishkill. The HP & F was an end-to-end merger of several railroads all created in the1840's with the purpose of connecting Providence with the Hudson River (at Fishkill Landing, New York) via the Willimantic and Hartford, in Connecticut. It became part of the Boston, Hartford and Erie Railroad through an 1863 purchase. The BH & E was reorganized in 1869 as the New York and New England, the last major system in southern New England independent of the New Haven's monopoly. The P&W acquired a portion of this line from Conrail on May 1, 1982. A petition for abandonment of this line was filed in August of 1989 and granted by the I.C.C. in July 1990. RIDOT is attempting to acquire this portion of the line from the P&W.

The remaining right-of-way is owned by the New England Power Co., parent company of Narragansett Electric. The right-of-way had been leased to the Rhode Island Department of Environmental Management for recreational purposes and was called the Trestle Trail. The Rhode Island DEM is currently preparing a deed for transfer of the property from the Narragansett Electric Company to the State of Rhode Island.

4-04-17 Wrentham Industrial Track

The Wrentham Industrial Track had its start as the Rhode Island Mining Railroad Company (incorporated in 1865). This in turn, was incorporated as the Rhode Island and Massachusetts Railroad in 1872 with principal funding through subscriptions from the people of Franklin, Massachusetts. The route, from Valley Falls to a junction with the New York and New England Railroad in Franklin, was completed in 1877 and promptly leased by the NY&NE. Using trackage rights over the Providence and Worcester railroad between Providence and Valley Falls, the NY&NE began operating through passenger service between Boston and Providence and connecting at Providence with the NY&NE's Hartford, Providence and Fishkill division (today's Washington branch) thus providing a through rail route between Boston and New York, which had many technical advantages over both NY&NE's more northerly main line and the yet to be completed route on today's "Shore Line". Subsequently, in 1903, a connection was built between this line and another line that ran through Wrentham, Massachusetts, and in 1941 the original connection with Franklin was abandoned. The branch, renamed the "Wrentham Branch", continued as a through (but lightly used) freight route until 1963 when it was abandoned between its present northern terminus in Rhode Island and Wrentham. It was subsequently abandoned between Wrentham and East Walpole, Massachusetts, upon creation of Conrail in April, 1976. The line was acquired by P&W from Conrail on May 1, 1982. A petition for abandonment of this line was filed in August of 1989 and granted by the I.C.C. in July 1990.

04-04-18 Southern New England Railroad (ROW)

The Southern New England Railroad (S.N.E.) consisted of 30 miles of line that was partially constructed but never operated, and approximately 20 miles planned but never connected. The Southern New England was intended to provide Canada's Grand Trunk Railway with a warm water port (Providence) midway between the two New England ports of Portland and New London reached by GT and its subsidiary Central Vermont (CV). The main line was to run from Providence to the CV at Palmer, Massachusetts, via Woonsocket.

According to popular legend, the SNE railroad was never completed because its principal backer went down on the HMS Titanic on April 1, 1912. In fact, construction of the line didn't even begin until May, 1912, weeks after GT's chief, Charles M. Hayes, was lost in the famous ship disaster. A more realistic explanation is that, without Mr. Hayes' leadership, the project was slowed by some interference from the New Haven until the outbreak of World War I, which dried up the English sources of financing that the GT had previously enjoyed.

No matter what the reason, the SNE was never completed, although well over 100 miles of extremely well designed and constructed right-of-way still exist in Rhode Island and Massachusetts. The SNE was completely without grade-crossings, had no curve sharper than six degrees, and had no grade

steeper than one percent. In Rhode Island, much of the right-of-way still exists roughly parallel to and west of the Providence and Worcester Railroad between Woonsocket and Valley Falls. The entrance into the Providence Union Station via a tunnel under Smith Hill was never built. Around Providence, a rather well-defined right-of-way still exists for the belt railway that SNE partially constructed through North Providence, Providence and Cranston to the waterfront near Field's Point. Reportedly, a portion of I-95 runs on the right-of-way as it moves away from the waterfront. The right-of-way is remarkably well defined considering the fact that no trains ever ran. In addition to the proposed tunnel under Smith Hill, SNE routes south from Providence to Narragansett Pier, west from Providence toward Connecticut, and northwest from Pascoag toward Webster, Massachusetts, were never built.

04-04-19 Electric Railways

In addition to the conventional railroads previously discussed, hundreds of miles of track once existed in Rhode Island for electric railways, ranging from ordinary street car lines to interurban lines whose private, well graded rights-of-way were of a class comparable with some of the better steam railroads. Evidence still remains of some of the interurban rights-of-way, including the remarkably intact railroad right-of-way that ran from Providence to Woonsocket near (and roughly parallel to) today's route RI-146.

04-05 Rail System Maps

Figures 661-04(02) through 661-04-(15) constitute the individual rail line maps for the entire state. Figures (02) through (12) use as base maps the General Highway Maps (County Series) published by the Planning Division of the Rhode Island Department of Transportation. The scale of these maps is 1" = 1/2 mile, although some of the maps have been reduced by as much as 50 percent (1" = 1 mile) for inclusion in this freight rail plan. A general legend for these eleven figures is reprinted on Page 4.49.

Figure 661-04(13) uses as a base map the zoning map of the City of Providence. Figure 661-04(14) was constructed from data available in the Rhode Island Department of Transportation. Each individual rail line map has been shaded to show approximate areas zoned for manufacturing, industry, or similar uses often dependent on the availability of rail service. These shaded areas present the greatest opportunity to rail dependent industries for new plant locations. However, other areas may be appropriate for a given industry depending on the nature of the industry, the exact language of the local zoning ordinance, and the possibility of obtaining special permits, variances or revisions to the zoning ordinance. Since zoning ordinances are a function of municipal government, further information on a particular site can be obtained from the city or town involved. The shaded areas were interpreted from the local zoning maps available in late 1979 and added to the individual rail line maps. This information was updated based on the 1988 inventory of industrially zoned-land (unpublished data, Division of Planning).

The complexity of local zoning maps and the small scale of the rail maps make precise delineation of the industrial areas impossible. Accordingly, the rail line maps should only be considered as an approximation of the available industrial land. Also, industrial areas not adjacent to rail lines are not all shown even though they may be suitable for a rail dependent industry willing to use Trailer on Flat Car (TOFC) service or willing to construct a new public siding. Appendix B lists industrial-zoned acreage (by city or town) along each rail line.

Another useful source for more precise industrial zoning information is the Industrial Land Use Plan, State Guide Plan Element 212. This document delineates which industrial land is vacant, public utilities available on the site, and accessibility to railroads, highways and airports. Local Comprehensive Plans should also be consulted. Efforts to map the entire state with ARC-INFO/ GIS coverage should provide an excellent basis for delineating industrial-zoned land and transportation infrastructure. Future Freight Rail Plans will benefit from these map coverages now in preparation by the Department of Transportation's Planning Division and the Division of Planning's (RIGIS) system.

Figure 661-04(01)

TYPICAL LEGEND FOR RAIL MAPS

ROADS AND ROADWAY FEATURES

- DIVIDED HIGHWAY
- PAVED ROAD
- BITUMINOUS ROAD—LOW TYPE
- GRAVEL OR STONE ROAD
- SOIL SURFACED ROAD
- GRADED AND DRAINED ROAD
- UNIMPROVED ROAD
- PRIMITIVE ROAD
- PRIVATE ENTRANCE TO FARM OR OTHER DEVELOPMENT
- HIGHWAY BRIDGE (20' span or over)

ROAD SYSTEM DESIGNATION

- STATE HIGHWAYS — Wide Band
- LOCAL ROADS — Narrow Band
- INTERSTATE SYSTEM ROUTE NUMBER — 95
- U. S. NUMBERED HIGHWAY — 6
- STATE NUMBERED HIGHWAY — 3

FARM UNITS, DWELLINGS, ETC.

	IN USE	NOT IN USE
FARM UNIT		
DWELLING OTHER THAN FARM		
ROWS OR GROUPS OF DWELLINGS CLOSELY SPACED (Figure denotes number of dwellings)		
SEASONAL OR SUMMER COLONY DWELLING		
SEASONAL DWELLINGS CLOSELY SPACED (Figure denotes number of dwellings)		
HOTEL, INN		
CHURCH—OTHER RELIGIOUS INSTITUTIONS		
FRESH AIR FARM OR REST HOME		
HOSPITAL		
CEMETERY		
CHURCH WITH CEMETERY ADJACENT		
TOURIST, CABINS, MOTELS (Figure denotes number of units)		

INDUSTRIAL

	IN USE	NOT IN USE
STORE OR SMALL BUSINESS ESTABLISHMENT (Figure denotes number of establishments)		
FACTORY OR INDUSTRIAL PLANT		
GROUP OF STORAGE TANKS, OIL OR GAS		
GAUGING OR PUMPING STATION		
GRAVEL PIT		
QUARRY		
NURSERY		
POWER SUBSTATION		

EDUCATIONAL AND PUBLIC FACILITIES

	IN USE	NOT IN USE
SCHOOLHOUSE		
CONSOLIDATED OR LARGE SCHOOL		
OTHER EDUCATIONAL INSTITUTIONS		
PUBLIC LIBRARY		
MUSEUM—GENERAL (S; state; M; municipal)		
TOWN HALL, GRANGE, OR COMMUNITY HALL (Letters T, G, or C, designate kind)		
POST OFFICE		
BUSINESS AND POST OFFICE		
WATER SUPPLY STAND PIPE		
RADIO OR TV STATION		
HIGHWAY GARAGE (S; state; M; municipal)		
STATE POLICE BARRACKS		
FIRE ENGINE HOUSE		
COUNTY COURT HOUSE		

AIRWAYS

- MILITARY FIELD
- FIELD FOR COMMERCIAL OR GENERAL PUBLIC USE
- LANDING AREA OR STRIP
- AIRWAY LIGHT BEACON
- AIRPORT WITH SURFACED RUNWAYS

NAVIGATION

- HEAD OF NAVIGATION
- DOCK, PIER, OR LANDING
- TOLL FERRY
- LIGHTHOUSE
- COAST GUARD STATION

CONSERVATION AND RECREATION

- PICNIC GROUND
- PLAYGROUND, BALL FIELD, ETC.
- BATHING BEACH OR SWIMMING POOL
- SCENIC SITE
- TRAILER CAMP
- FISH HATCHERY (basin) (pond)
- BIRD SANCTUARY
- GAME PRESERVE
- OBSERVATION TOWER
- GOLF COURSE OR COUNTRY CLUB — C
- SMALL PARK (S.P. state; M.P. municipal) — SP
- FAIR GROUND, RACE COURSE, SPEEDWAY
- YACHT CLUB
- RIFLE CLUB — RC
- CAMP OR LODGE
- WEATHER OBSERVATION STATION

DRAINAGE

- NARROW STREAM
- WIDE STREAM
- MARSH OR SWAMP LAND
- RESERVOIR, POND, OR LAKE

BOUNDARIES

- STATE
- COUNTY
- TOWN OR CITY
- BUILT-UP AREA
- PARK AND OTHER RESERVATION

REFUSE DISPOSAL AREAS

- SEWAGE DISPOSAL PLANT — S
- INCINERATOR — I

JUNKYARDS AND DUMPS

- REFUSE, GARBAGE, OR TRASH DUMP — D
- AUTOMOBILE GRAVEYARD — A
- SCRAP METAL — M
- SCRAP BUILDING MATERIAL — B
- SANITARY FILL — F
- OTHER — G

CITY AND VILLAGE CENTERS

- STATE CAPITAL
- TOWN OR VILLAGE CENTERS

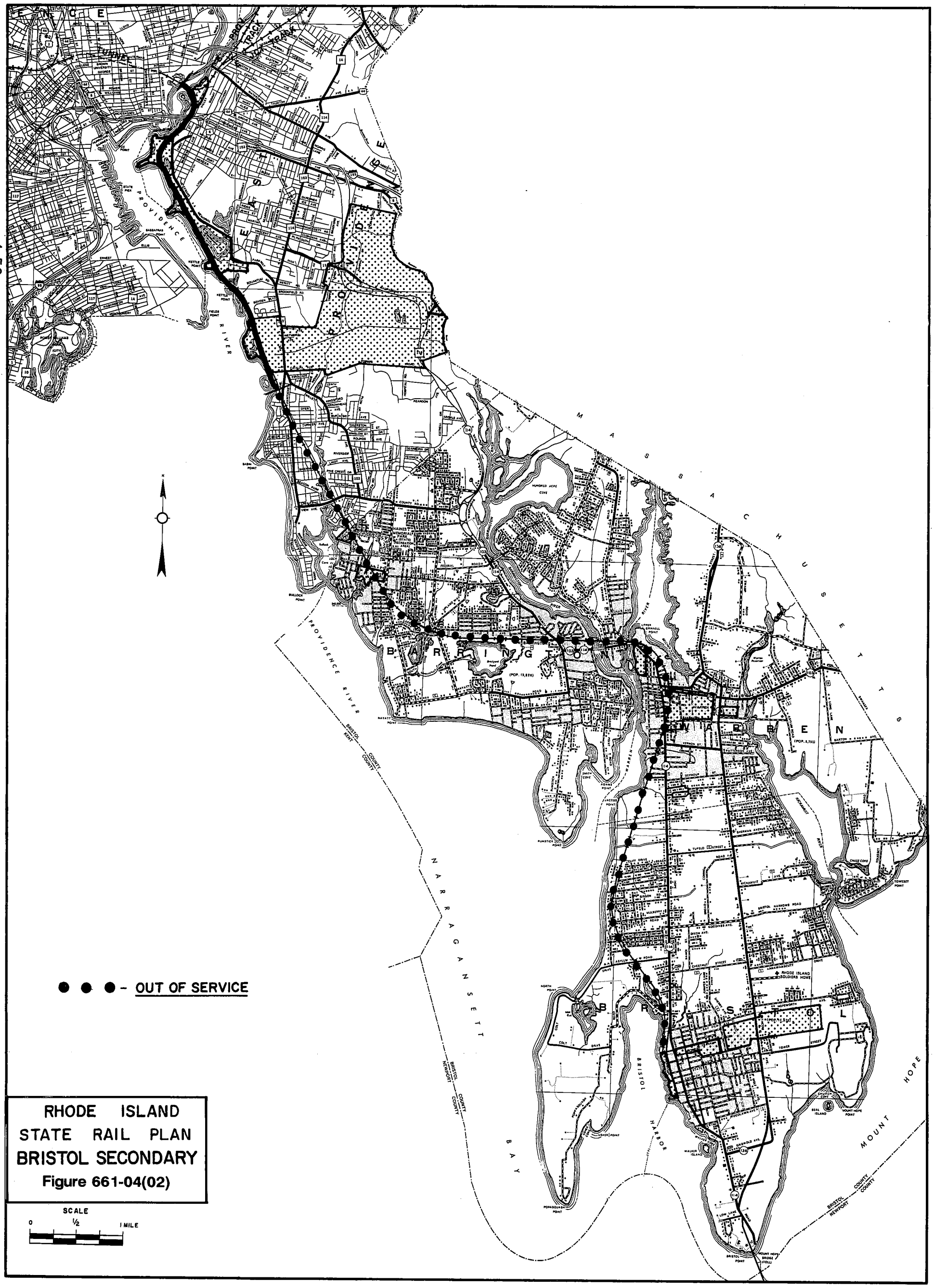
RAILROADS

- RAILROAD
- RAILROAD STATION
- GRADE CROSSING
- RAILROAD ABOVE
- RAILROAD BELOW
- RAILROAD TUNNEL
- RAILROAD BRIDGE

MISCELLANEOUS

- MILEAGE BETWEEN POINTS — 10.5
- PLANE COORDINATES (IN FEET) — 250,000
- LATITUDE AND LONGITUDE — 71° 41°
- UTM-(THOUSAND METER GRID) — 4605 N.
- FORT, ARMY, CAMP, BARRACKS, OR OTHER MILITARY POST
- GAS STATION
- DRIVE-IN THEATER
- FENCE

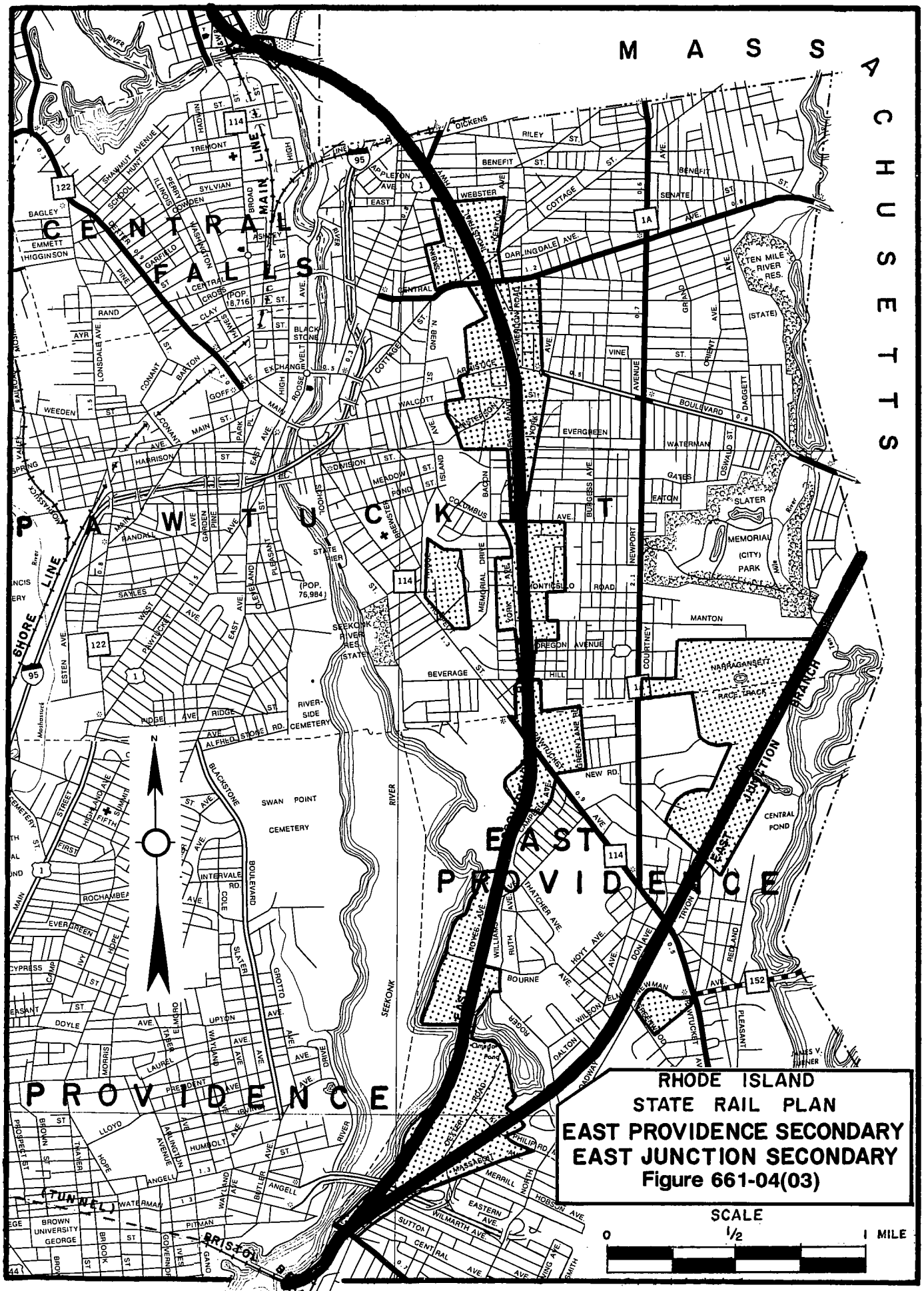
INDUSTRIAL ZONES



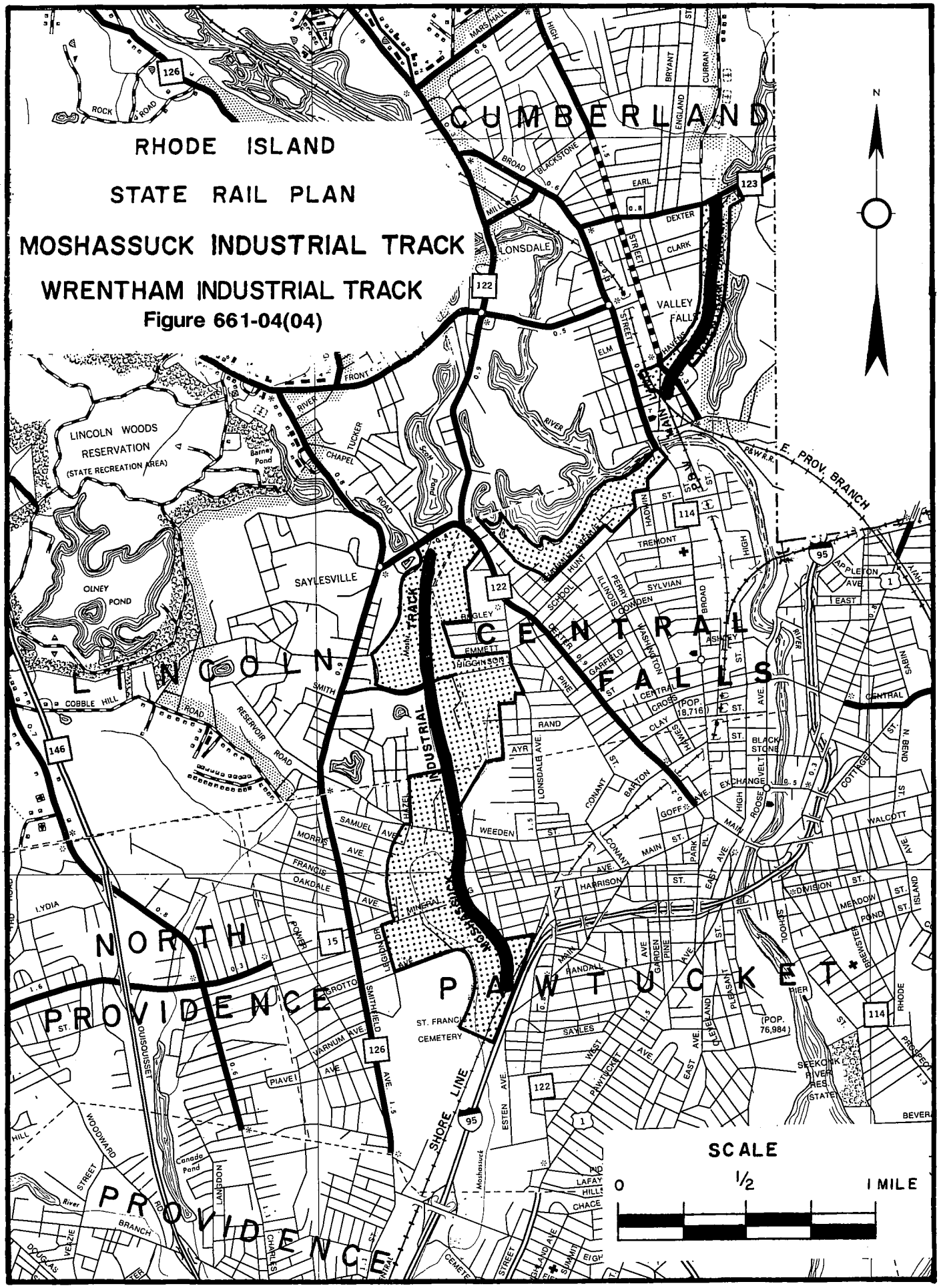
● ● ● - OUT OF SERVICE

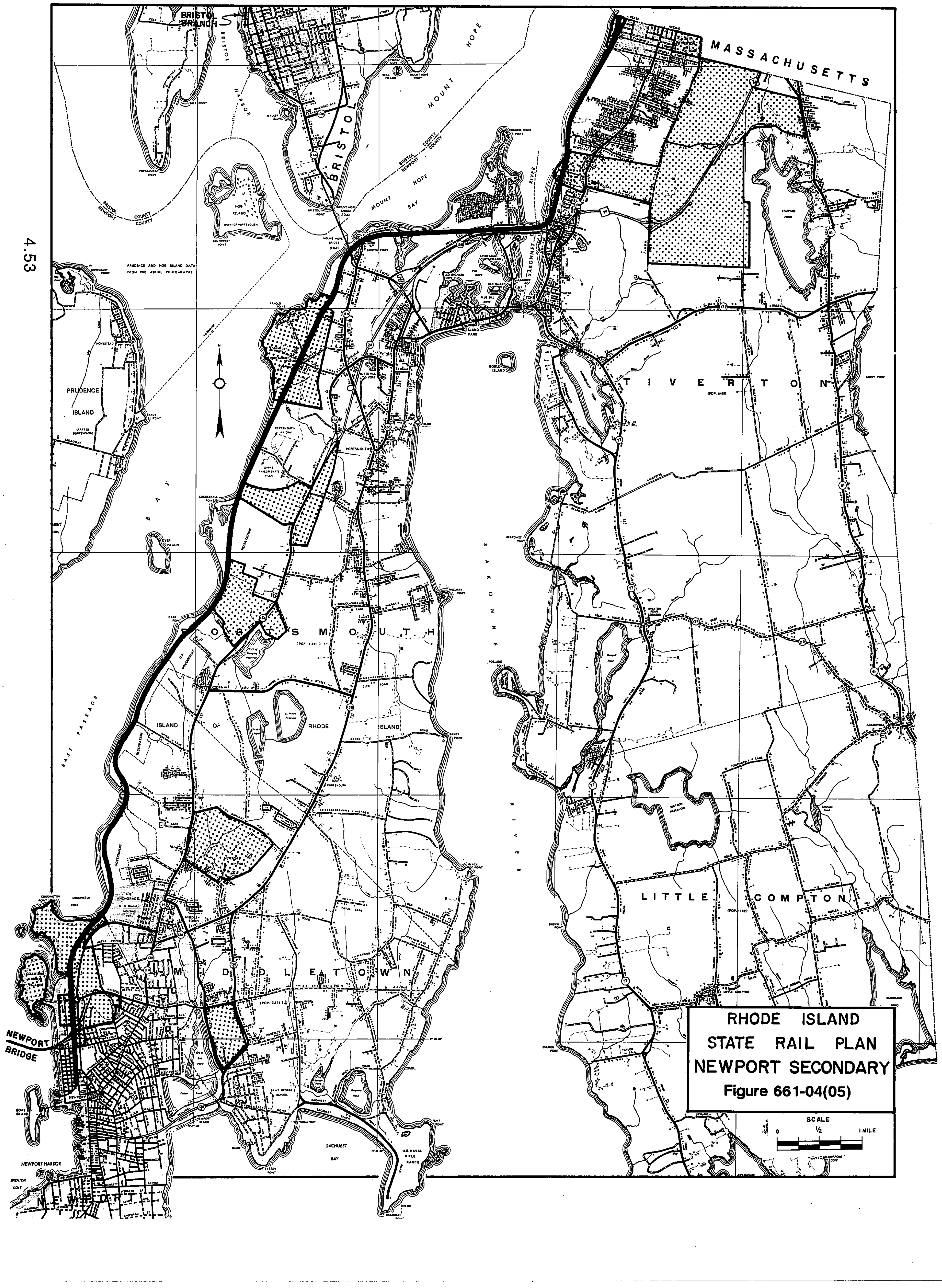
RHODE ISLAND
STATE RAIL PLAN
BRISTOL SECONDARY
Figure 661-04(02)

SCALE
0 ½ 1 MILE

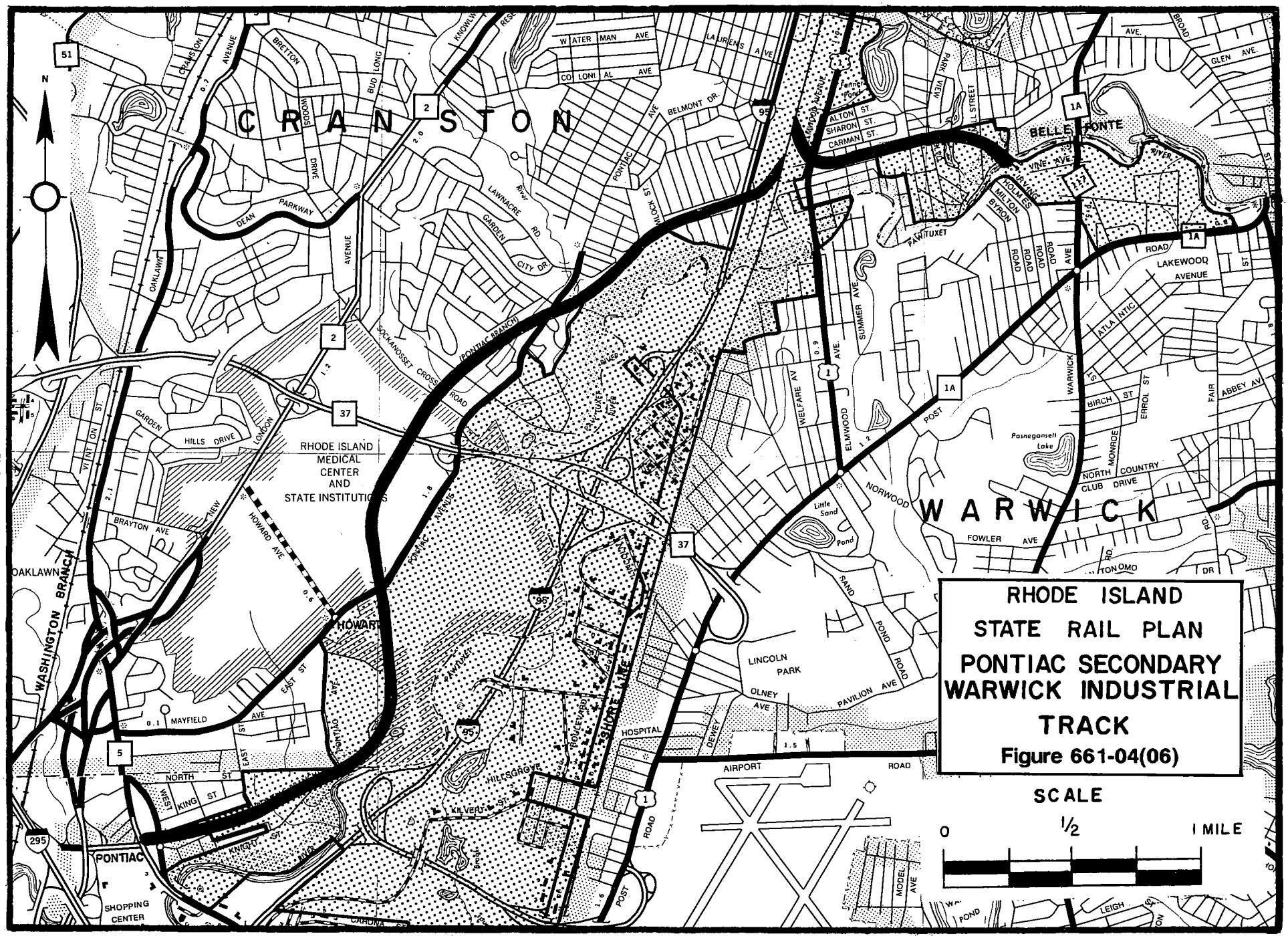


RHODE ISLAND
STATE RAIL PLAN
EAST PROVIDENCE SECONDARY
EAST JUNCTION SECONDARY
Figure 661-04(03)

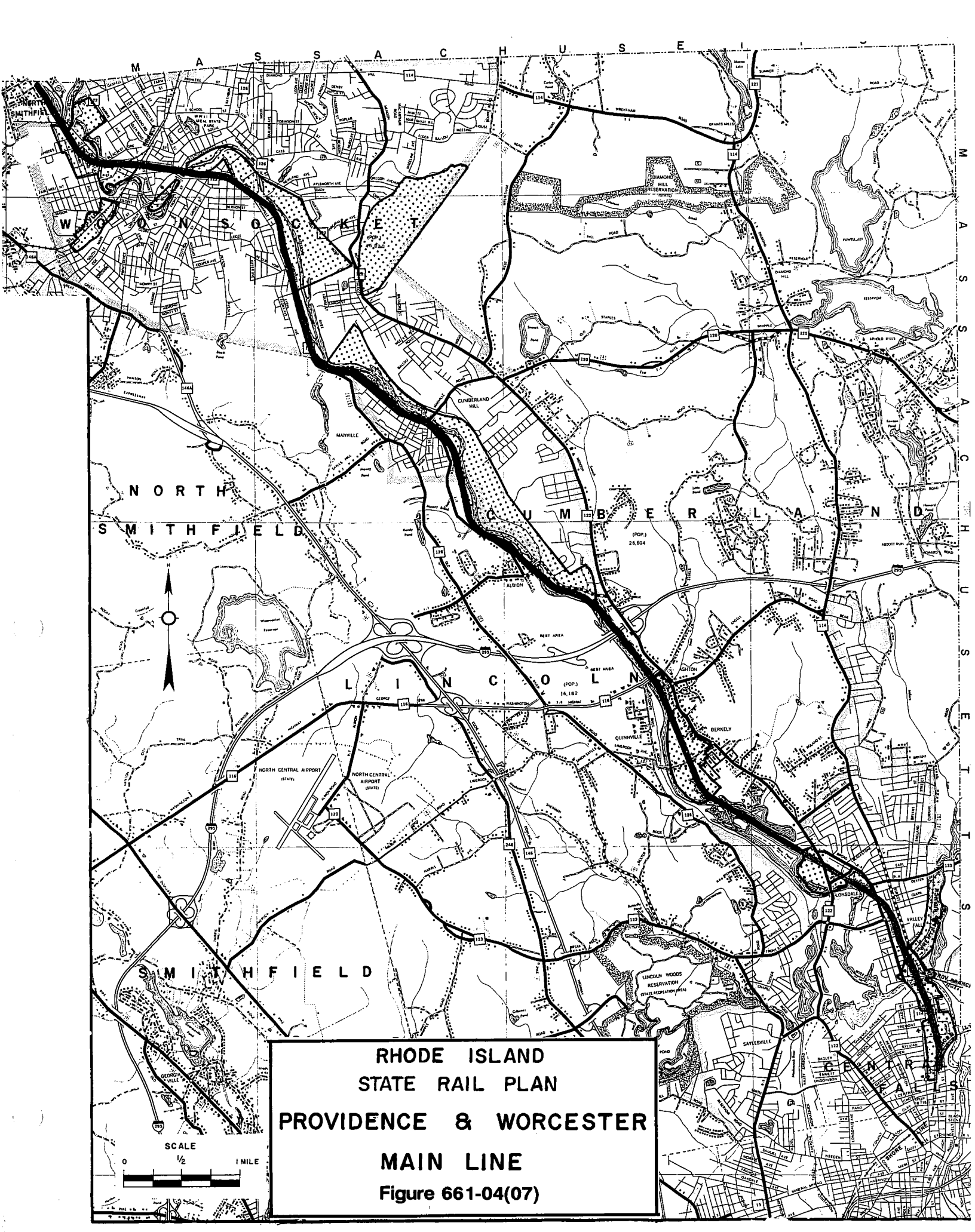

RHODE ISLAND
STATE RAIL PLAN
MOSHASSUCK INDUSTRIAL TRACK
WRENTHAM INDUSTRIAL TRACK
Figure 661-04(04)
CUMBERLAND
LINCOLN
CENTRAL FALLS
PAWTUCKET
NORTH PROVIDENCE
PROVIDENCE
LINCOLN WOODS RESERVATION (STATE RECREATION AREA)
SAYLESVILLE
LONSDALE
VALLEY FALLS
MOSHASSUCK INDUSTRIAL TRACK
WRENTHAM INDUSTRIAL TRACK
E. PROV. BRANCH
SHORE LINE
ST. FRANCIS CEMETERY
SEEKONK RIVER RES. (STATE)
(POP. 18,716)
(POP. 76,984)
SCALE
0 1/2 1 MILE
N



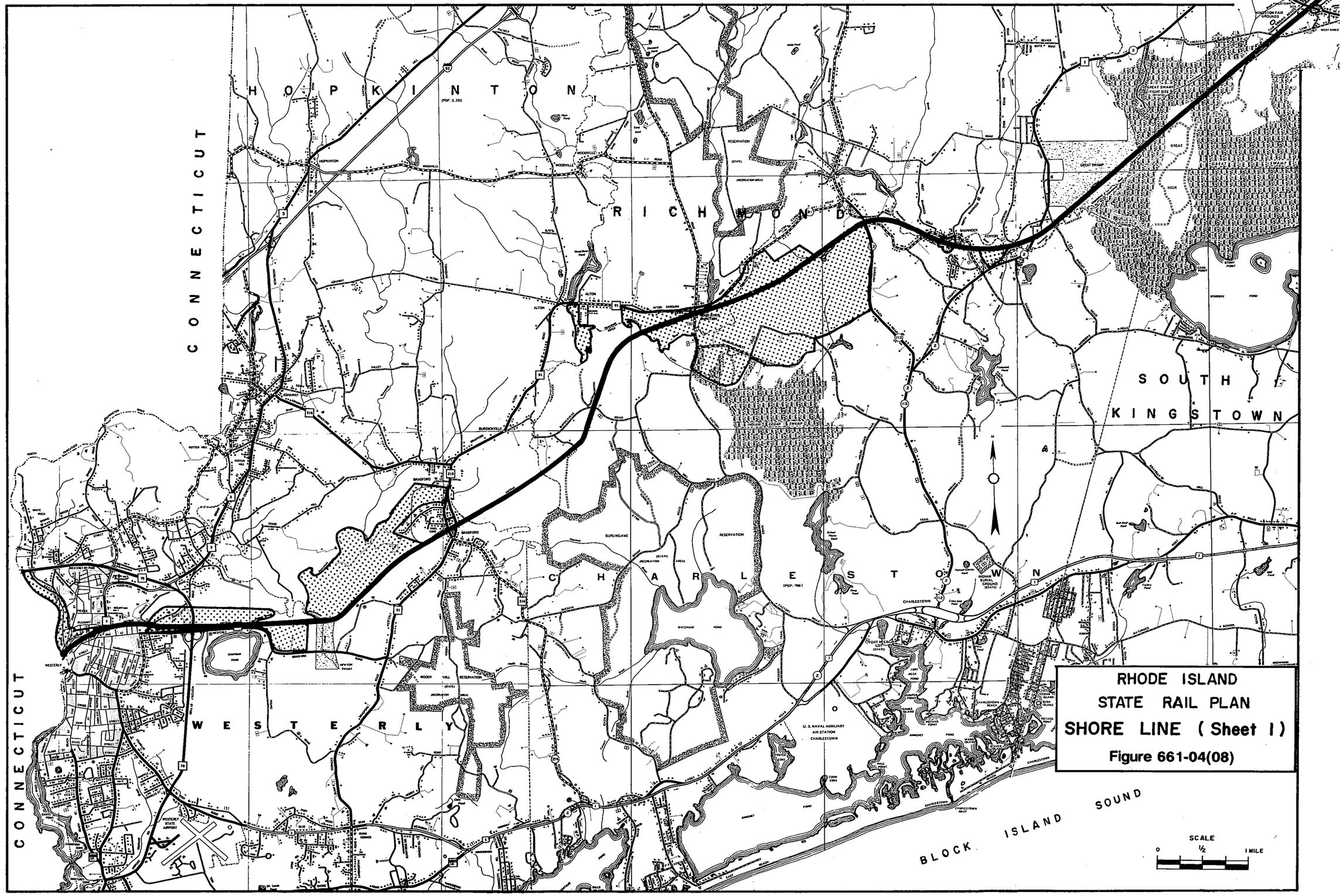
RHODE ISLAND
STATE RAIL PLAN
NEWPORT SECONDARY
Figure 661-04(05)



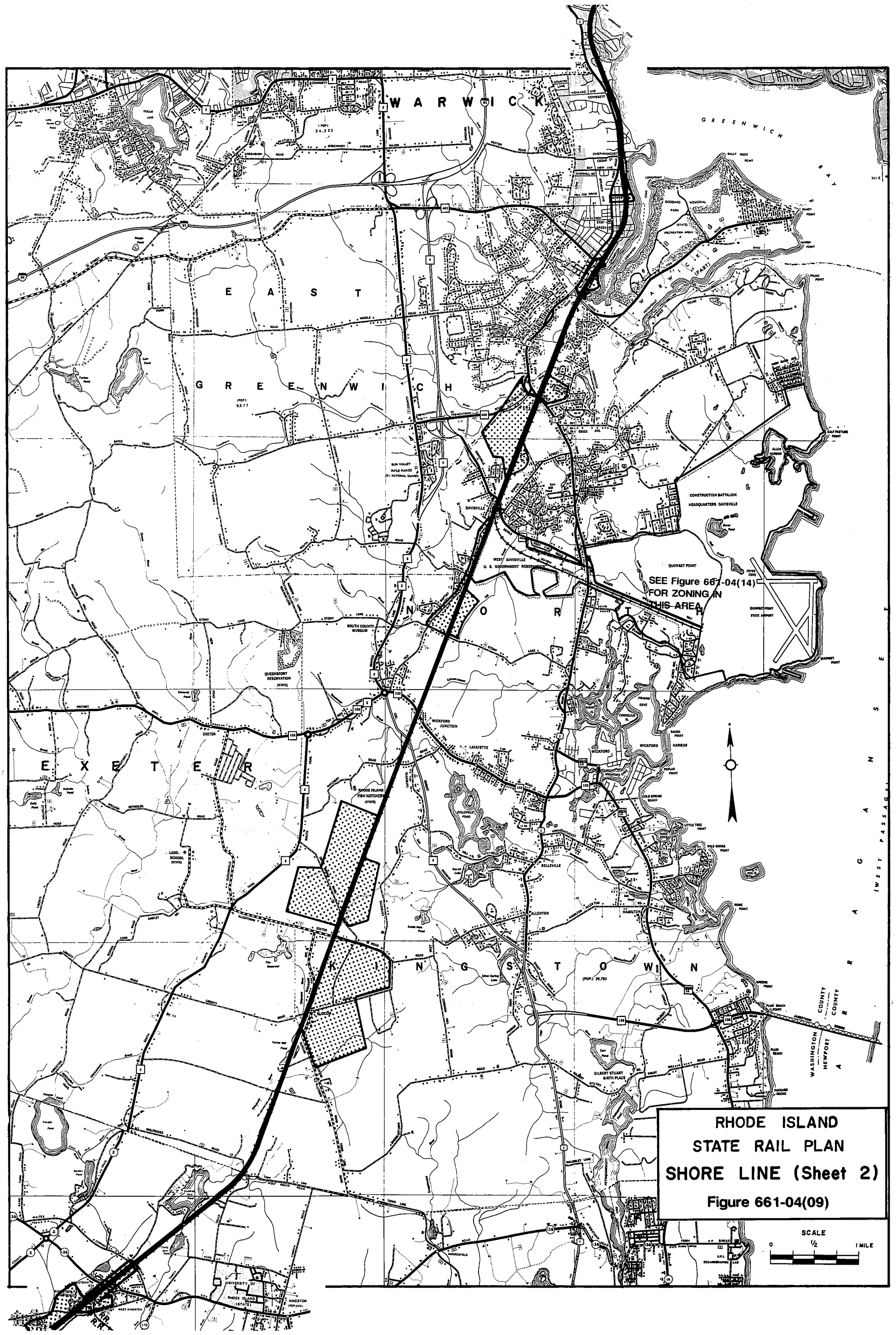
RHODE ISLAND
STATE RAIL PLAN
PONTIAC SECONDARY
WARWICK INDUSTRIAL
TRACK
Figure 661-04(06)

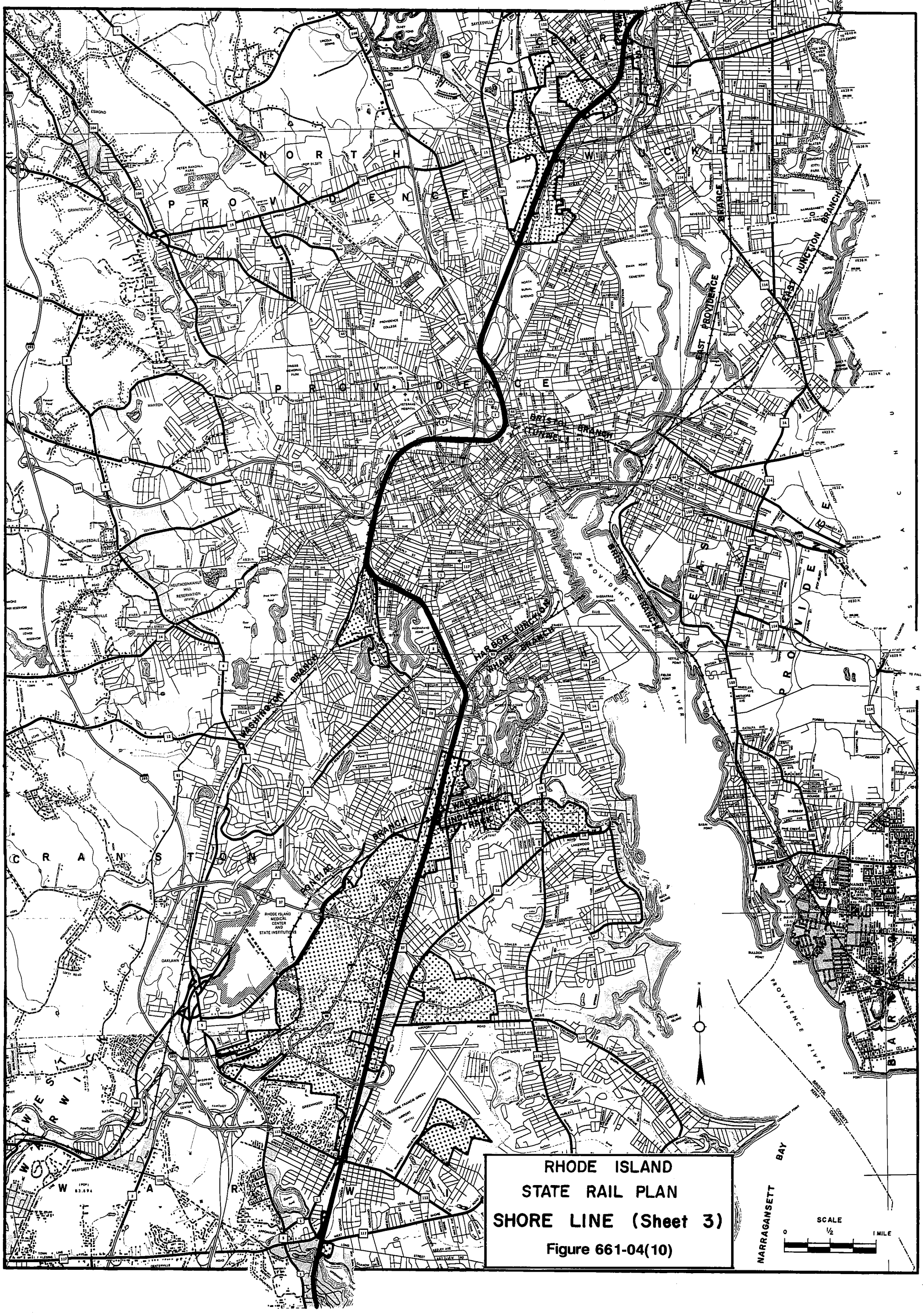


RHODE ISLAND
STATE RAIL PLAN
PROVIDENCE & WORCESTER
MAIN LINE
Figure 661-04(07)

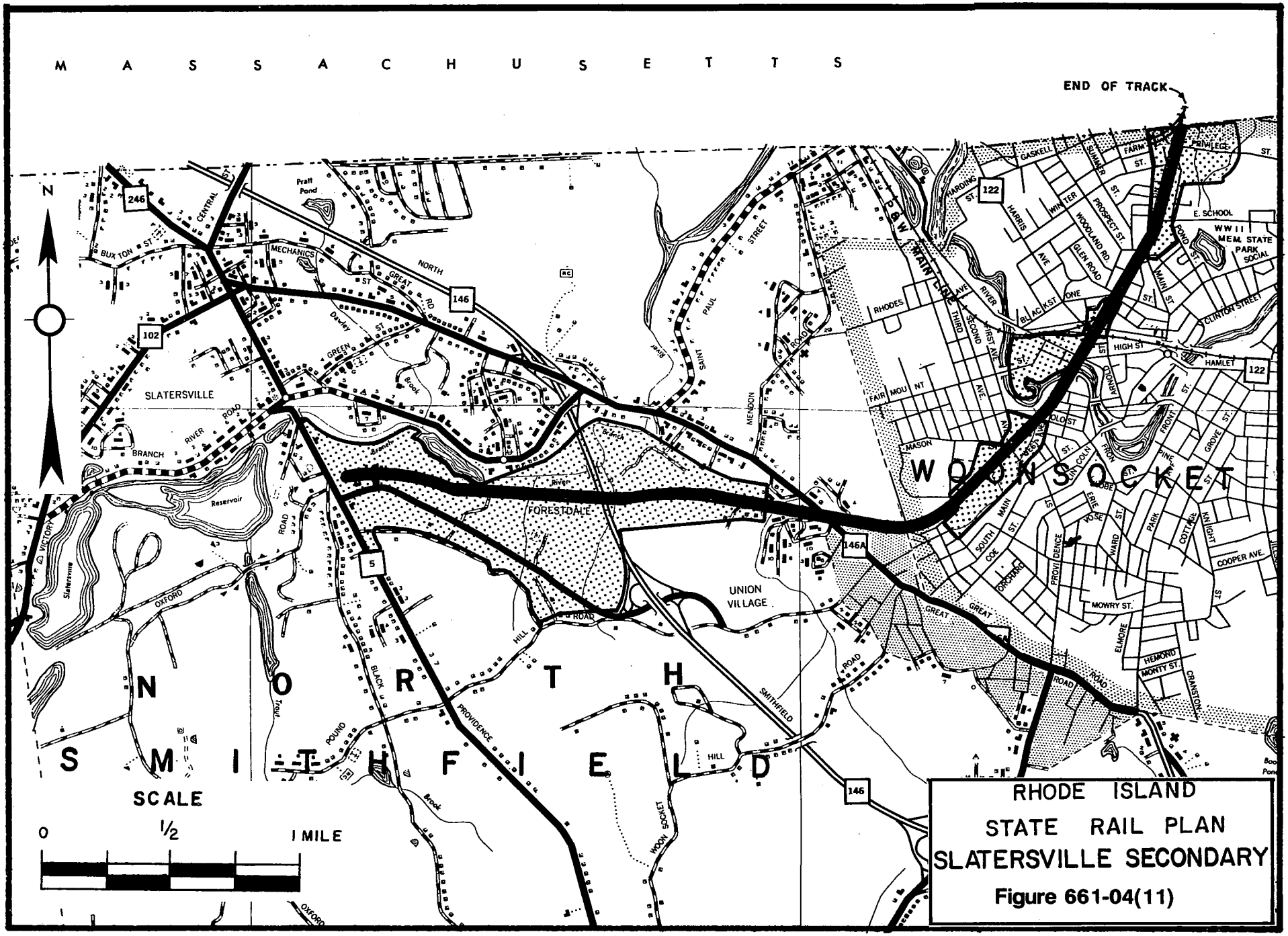


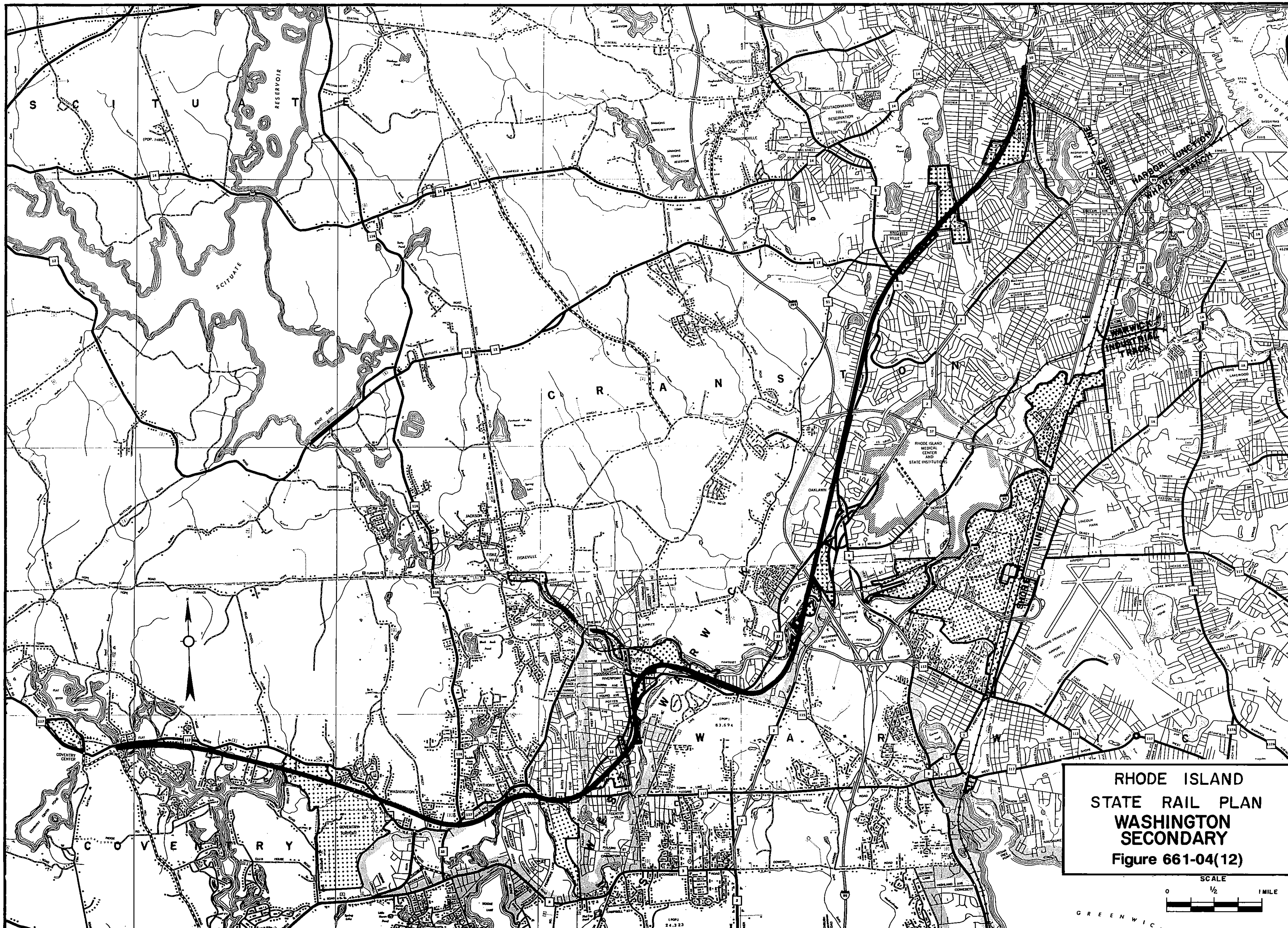
RHODE ISLAND
STATE RAIL PLAN
SHORE LINE (Sheet 1)
Figure 661-04(08)


WARWICK
GREENWICH
EAST
GREENWICH
NORTH
EXETER
KINGSTON
WARWICK (PART)
NARRAGANSETT BAY
WEST PASSAGE
SEE Figure 661-04(14) FOR ZONING IN THIS AREA
RHODE ISLAND
STATE RAIL PLAN
SHORE LINE (Sheet 2)
Figure 661-04(09)
SCALE
0 1/2 1 MILE



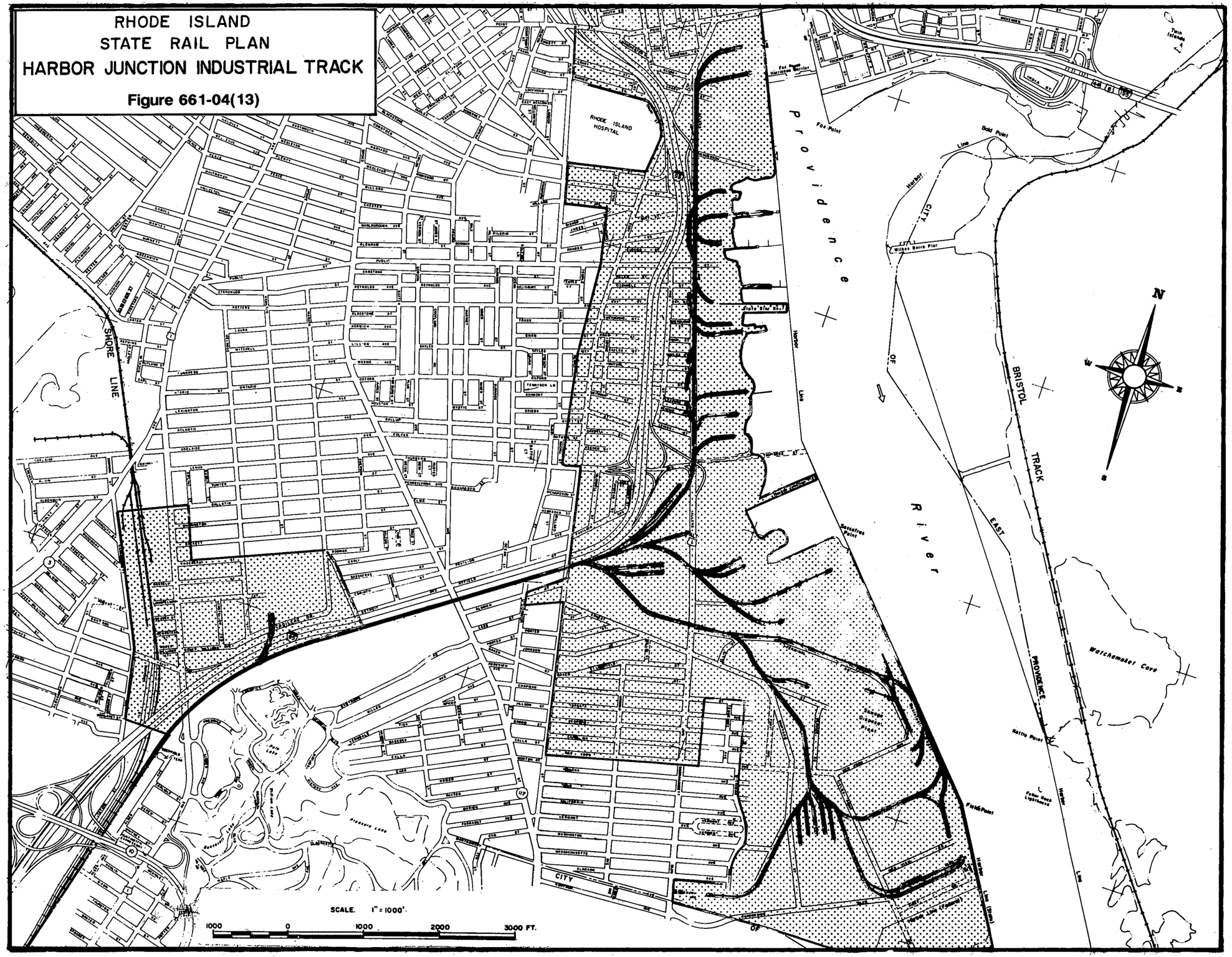
RHODE ISLAND
STATE RAIL PLAN
SHORE LINE (Sheet 3)
Figure 661-04(10)


M A S S A C H U S E T T S
END OF TRACK
N
SLATERSVILLE
FORESTDALE
UNION VILLAGE
WOONSOCKET
NORTH SMITHFIELD
246
102
146
122
5
146A
SCALE
0
1/2
1 MILE
RHODE ISLAND
STATE RAIL PLAN
SLATERSVILLE SECONDARY
Figure 661-04(11)


RHODE ISLAND
STATE RAIL PLAN
WASHINGTON SECONDARY
Figure 661-04(12)
SCALE
0
1/2
1 MILE
SCITUATE
CRANSTON
WARWICK
COVENTRY
GREENWICH
SHORE LINE
HARBOR JUNCTION
WHARF BRANCH
WARWICK INDUSTRIAL TRACK
RHODE ISLAND MEDICAL CENTER AND STATE INSTITUTIONS

RHODE ISLAND
STATE RAIL PLAN
HARBOR JUNCTION INDUSTRIAL TRACK

Figure 661-04(13)



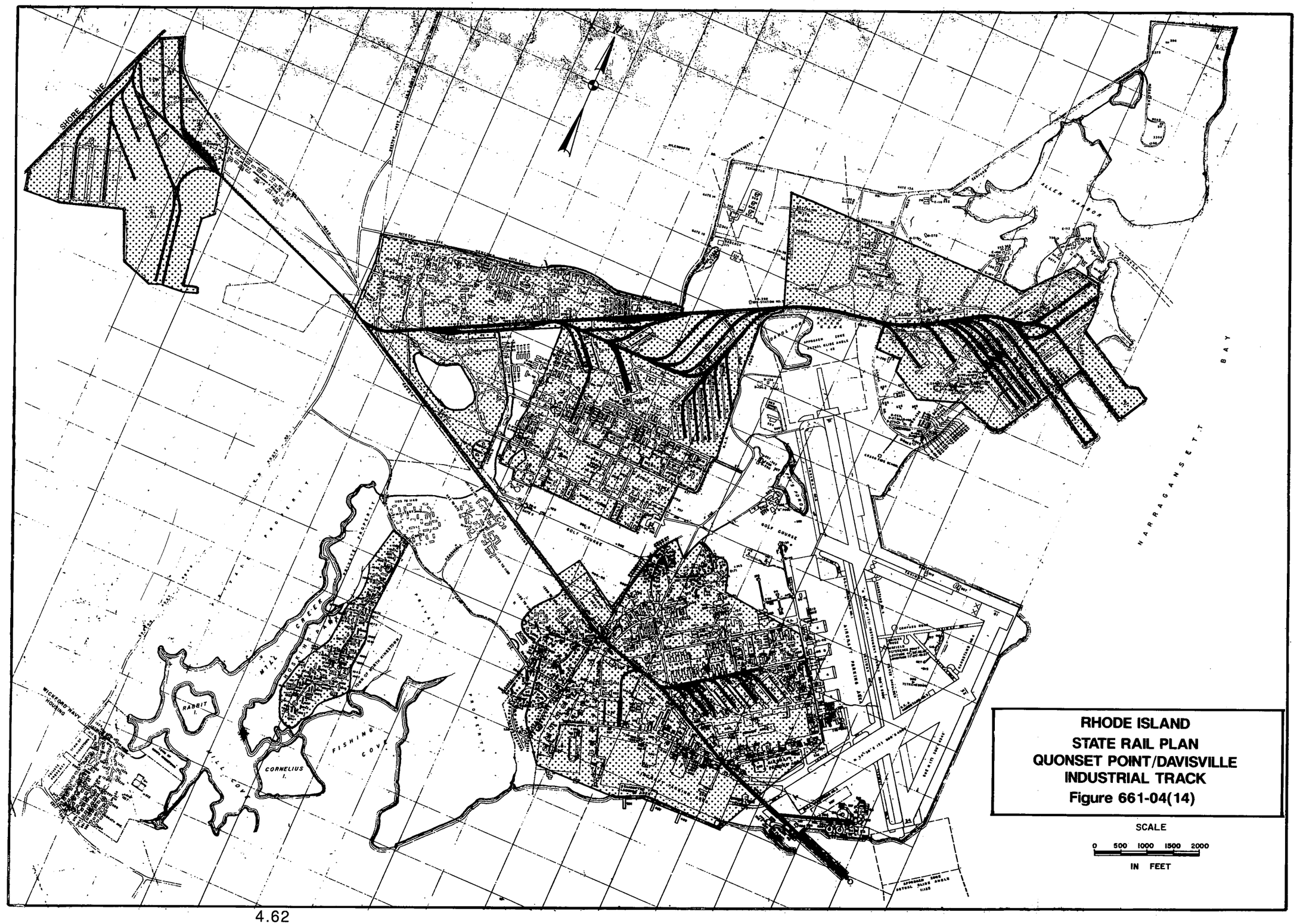
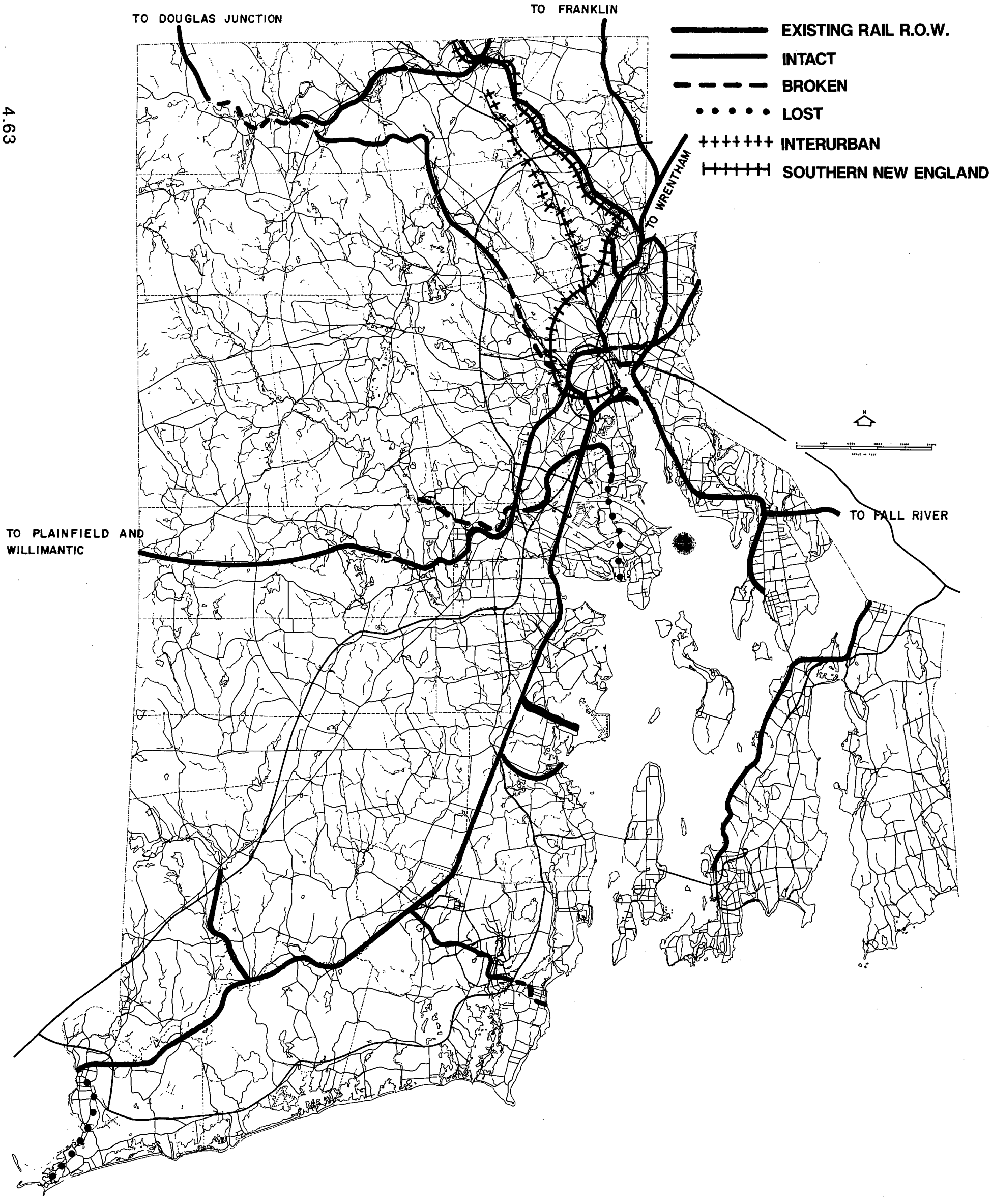

SHORE LINE
ALLEN HARBOR
NARRAGANSETT BAY
WICKFORD NAVY HOUSING
RABBIT I.
CORNELIUS I.
MILL COVE
FISHING COVE
GOLF COURSE
RHODE ISLAND
STATE RAIL PLAN
QUONSET POINT/DAVISVILLE
INDUSTRIAL TRACK
Figure 661-04(14)
SCALE
0 500 1000 1500 2000
IN FEET

Figure 661-04(15)

RHODE ISLAND
ABANDONED RAIL LINES



PART 661-05 DESIGNATED CLASSES OF RAIL SERVICE

05-01 Introduction

This section identifies the rail lines that fall into several classes designated by the FRA. The purpose of these definitions is to delineate lines that have special characteristics, lines that may be abandoned, and lines that may receive federal and/or state assistance in the near future.

Federal Railroad Administration regulations require that railroads annually report traffic on rail lines in terms of "gross ton-miles per mile," which is the combined weight of locomotives and all trailing cars and their contents used in revenue freight trains multiplied by the number of route miles traveled and divided by the number of route miles of the line. The number derived from this calculation is the "freight traffic density". In Rhode Island, no rail line is in excess of 3,000,000 gross ton miles per mile per year. No rail line exceeding this level may be eligible for LRFA assistance. To put the Rhode Island rail lines into perspective, the P&W Main Line, over which 90 percent of Rhode Island's incoming/outgoing freight moves, had a traffic density in 1988 of approximately two million gross ton miles per mile.

05-02 Lines with Abandonment Petitions Pending or Anticipated

The Interstate Commerce Commission has established five categories of rail service indicating the status of the line and the operating railroad's short term operational plans.

Category I Lines Rail lines likely to be the subject of an I.C.C. abandonment or discontinuance application within three years.

Category II Lines Rail lines which are under study and may be the subject of a future I.C.C. abandonment or discontinuance application within three to five years.

Category III Lines Rail lines for which abandonment or discontinuance of service applications are pending before the I.C.C.

Category IV Lines Rail lines operated under rail service continuation assistance.

Category V Lines All other rail lines, owned and operated.

On December 13, 1989, the Providence and Worcester Railroad notified the State of Rhode Island of its intention to abandon five rail lines. Accordingly, a system map was filed on December 27, 1989, with the Interstate Commerce Commission. Petitions for abandonment were granted for part of the Moshassuck Industrial Track, the Pontiac Secondary Track, the Washington Secondary Track, and the Wrentham Secondary Track. The only line remaining in category I

status is the Warwick Industrial track, which is one mile in length and services approximately 23 industrial-zoned acres in the city of Warwick.

05-03 Lines with High/Wide Load Limitations

Rhode Island rail lines suffer from dimensional restrictions that are typical of the highly urbanized rail systems in the Northeast. Generally, 16 feet 7 inches is the maximum vertical clearance accommodated throughout the state's rail lines. In limited areas, clearance is much higher, although system-wide choke points prevent over-sized loads such as double-stack trains access into the state.

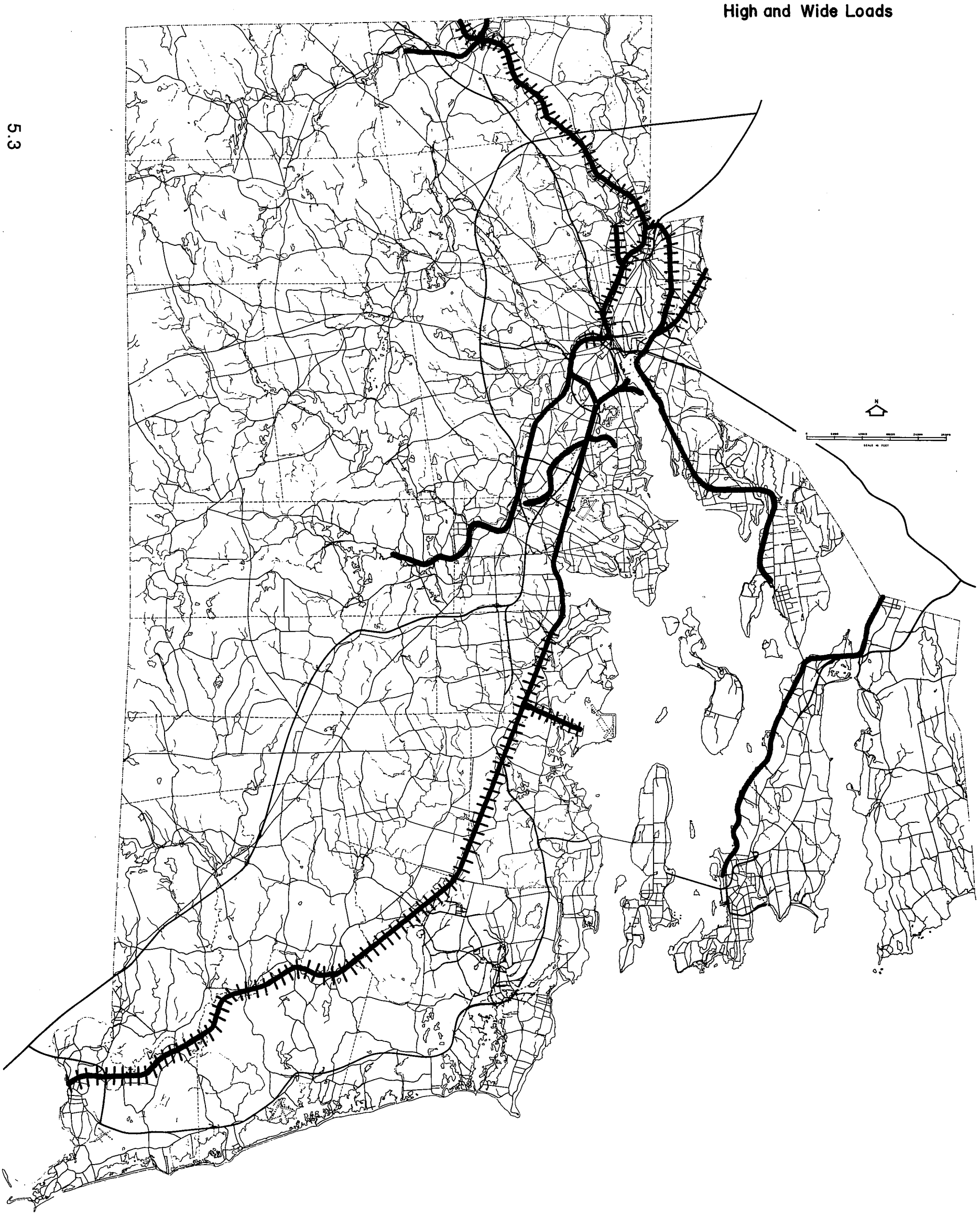
Significant high/wide restrictions lie on the Shore Line from a point just south of Providence Union Station to Warwick. The restriction is serious because it affects the Harbor Junction Wharf line serving the Port of Providence. Figure 616-05(01) delineates the rail routes accommodating high/wide loads.

The clearance envelope for high/wide is defined in Technical Paper 141: Overhead Clearance/Deminsional Restrictions on Rhode Island Rail Lines as 20.5 feet vertically and 10 feet 8 inches horizontally.

Figure 661-05(01)

HIGH AND WIDE LOAD ACCOMMODATIONS

|||||| Trackage Able to Accommodate
High and Wide Loads



05-04 Lines Essential for National Defense or Serving Military Facilities.

Rhode Island is host to U.S. Navy units located at the Newport Naval Base on Aquidneck Island and the Davisville complex in North Kingstown. In addition to the the Navy, there are various units of the Army Reserve and National Guard throughout the state. These military activities have utilized railroad services to move material in the past or have indicated a desire to maintain rail service to their existing installations. Figure 661-05-(02) shows the location of rail lines serving military facilities. The following lines serve defense installations and are considered essential for national defense.

05-04-01 Shore Line (entire length)

The Shore Line provides the only access to the QP/D industrial line. South of Davisville, the Shore Line is also essential as a high/wide route to the military facility at Davisville and to a major defense contractor located in the industrial park.

05-04-02 P&W Main Line (entire length)

The P&W main line is a principal route into Rhode Island for military shipments accessing the Harbor Junction branch and connecting to the Shore Line from points north and west of Providence.

05-04-03 Harbor Junction Wharf Industrial Track

The Port area also accomodates units of the Army and the Marine Reserve.

05-04-04 Newport Secondary Line (entire length except southernmost 0.5 miles)

The Newport secondary line directly serves military facilities located at the Newport Naval Base. Because freight rail service to Aquidneck Island has been suspended due to damage sustained to the Sakonnet River Swing Bridge, actual use of the line by the Navy has been infrequent, limited to incidental traffic accomplished by use of the Old Colony/Newport Railroad Foundation equipment. The use of rail service is included in the Navy's mobilization plans (in case of war), and naval staff at Newport have indicated that resumption of freight service and upgrading of track conditions is desirable.

05-04-05 Quonset Point/Davisville Industrial Track (entire system)

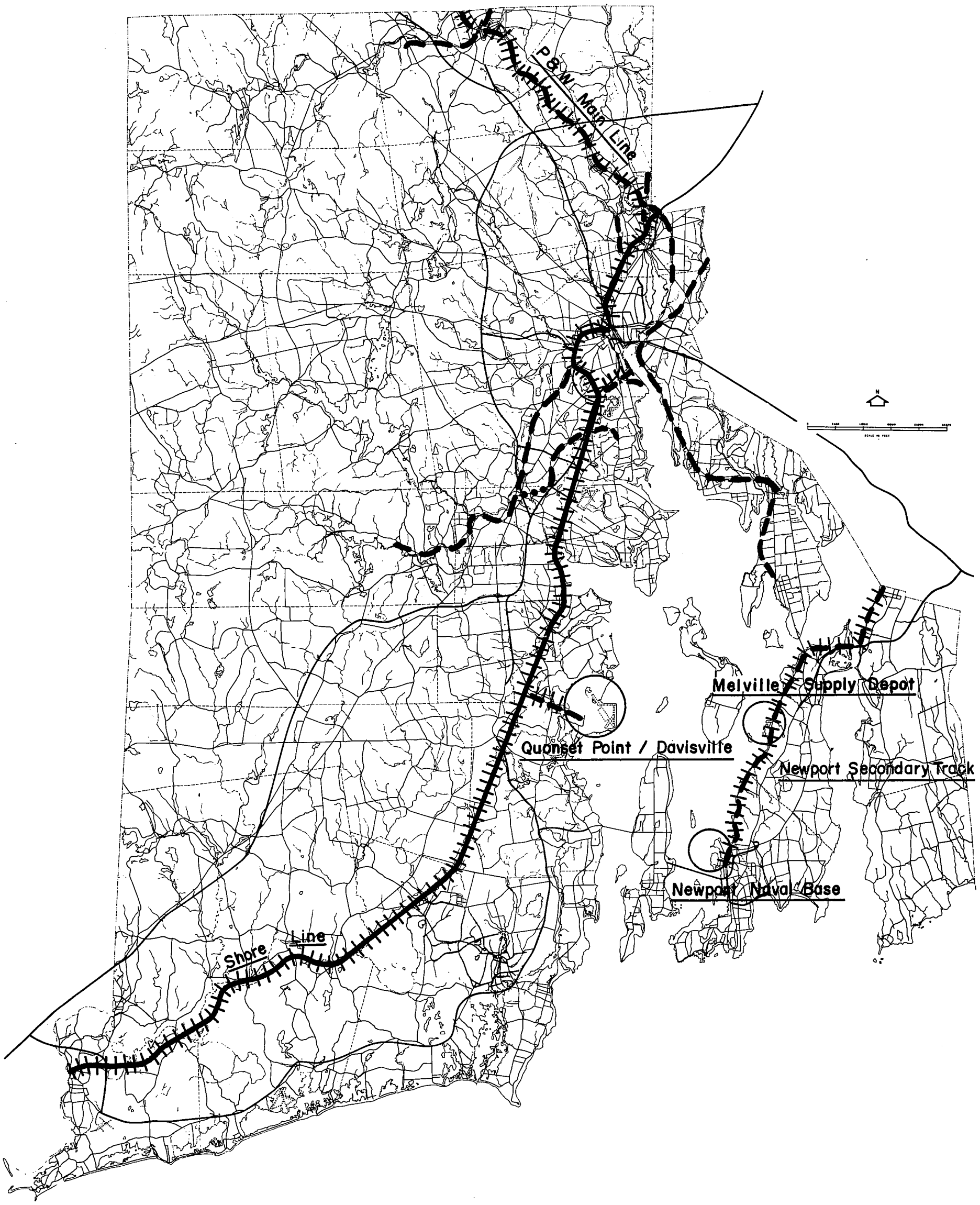
The Quonset Point/Davisville Industrial Track serves existing Navy operations at Davisville and the Electric Boat Division of General Dynamics Corporation, a major defense contractor.

Figure 661-05(02)

LINES ESSENTIAL FOR NATIONAL DEFENSE OR SERVING MILITARY FACILITIES

LEGEND

MILITARY SIGNIFICANT LINES



05-05 Lines Eligible for Federal/State Assistance

With the single exception of the Shore Line north of Providence, all rail lines in Rhode Island are of sufficiently low density (less than 3 million gross ton miles per mile) to qualify for federal/state assistance pursuant to 49 CFR Part 266 dated October 1, 1988. However, application of the screening criteria in Part 661-02-07 in accordance with federal regulations has designated certain lines ineligible for assistance at the present time.

Thus, the following lines are eligible for future assistance under the current regulations pursuant to Part 266.9 (a) or (b).

Line

1. P&W Main Line
2. Slatersville
3. Quonset Point/Davisville Ind. Track
4. East Providence Secondary Track

05-06 Lines Recommended for Rehabilitation Assistance

The Providence and Worcester Railroad and the Seaview Transportation Company submitted a priority list of rehabilitation projects for their respective lines. These lines and proposed projects are listed below. In addition, all municipalities or agencies of government who own trackage on any operational Rhode Island rail line were contacted and asked to submit projects to be considered for LRSA or other funding assistance.

Based on the generally poor physical condition of Rhode Island's rail lines (with the exception of the Shore Line) and in accordance with the state's desire to promote continued freight service, all submitted projects will be considered for the LRFA program. Since the publication of the 1990 plan, all available FRA funds have been programmed and it is anticipated that these projects will be completed by 1995, exhausting all existing federal funding. There is the possibility of future discretionary funding through FRA and/or funding through the creation of a state program through the issuance of general obligation bonds.

LINE	PROJECT	DESCRIPTION
	PROVIDENCE AND WORCESTER	
P&W Main	Re-tie Woon. Viaduct	Re-tie three spans (phase II)
P&W Main	Blackstone River Bridge (mp 5.83)	Renew steel
P&W Main	Bridge work (mp 12.33)	Construct bridge
P&W Main	Bridge rehab. (mp 10.88)	Replace bridge deck
P&W Main	Yard Track Bridge	Replace bridge deck
Slatersville Br.	Drainage improvements	Rehab. culverts
P&W Main	Re-Tie Main Line	Install ties on Main Line curves

LINE	PROJECT	DESCRIPTION
	RI PORT AUTHORITY/RI DEPARTMENT OF ECONOMIC DEVELOPMENT	
QP/D Ind.	Davisville track rehab	Replace light rail and switches
QP/D Ind.	W. Davisville track rehab	Track rehab
QP/D Ind.	Quonset Track Rehab	Track Rehab

(Projects are listed by priority assigned by the respective railroad operator or rail line owner)

05-07 Rhode Island Rail Line Classification

A descriptive classification system has been developed in the State of Rhode Island to better group the state's twelve rail lines (see table 661-05(01)). Each line is classified based on its primary use. Therefore a main line is designated "ML", either passenger (p) or freight (f). For example, the Shore Line, having major significance as both a main line passenger and freight line, would be designated "ML(p,f)". Other categories are industrial track (I), which is a line serving a single industrial complex or industrial park, and branch or secondary lines designated (B), serving larger areas with team or spur track serving individual shippers/receivers.

TABLE 661-05(01)
Rail Line Classification & Usage

Line/Designation		*Usage*					
		Pass.	**Frt.**	**High/Wide Usage**	**Military**	**Dependent Shipper**	**Major Ind. Use**
1. Shore Line	ML (p,f)	*	*	*	*	*	*
2. P&W Main	ML (f)		*	*	*	*	*
3. Harbor Junction	I		*	*	*	*	*
4. QP/D	I		*	*	*	*	*
5. East Junction	B		*			*	*
6. East Providence	B		*			*	
7. Slatersville	B		*			*	
8. Moshassuck	B		*				
9. Newport	B	*	*		*		
10. Bristol	B		*				
11. Warwick	I		*				
12. Pascoag Stub	I		*				

Note: *Freight service has been suspended on the Newport secondary line. In addition, most of the Bristol Secondary line is out of service.*

While this system does not have the advantage of absolute ranking of lines in categories, it does provide an insight into the "current" importance of each line and serves as a useful planning tool. Since the information presented in Table 661-05(01) does not include future plans for the lines by the current operator, the state, or local communities, care must used to integrate all pertinent characteristics and attributes of each line. More detailed information about each line is presented in Part 661-04, Rhode Island Rail Lines. Other sources of data that may be accessed are delineated in Part 02-03, Data Requirements.

PART 661-06 PROJECT DESCRIPTION AND ANALYSIS

06-01 Introduction

This part attempts to establish criteria with which the state's rail lines may be ranked relative to each other for the purposes of establishing a priority list of projects eligible to receive funding. All rail lines are examined, including those designated as ineligible for LRFA funding after applying the criteria developed in Part 661-02-07 (Screening Criteria).

06-02 Economic Development Potential of Rail Lines

The economic development potential of the state's rail lines was established using industrial-zoned land as an indicator of the relative potential of each line to develop industrial usage, and accordingly potential rail users. Industrial-zoned land data is broken down by current industrial use, non-industrial use, and vacant land. A complete listing of industrial-zoned land abutting each of the state's rail lines is shown in Appendix B.

Table 661-06(01)
R.I. Rail Lines With Industrial-Zoned Acreage

	Total Ind. Zoned Acres	Acres in Ind. Use	Other than Ind. Use	Vacant Acres
Shore Line	7025	1612	1634	3782
P & W Main	1344	336	291	718
Bristol Secondary Track	896	382	110	404
Newport Secondary Line	896	143	456	297
Harbor Junction Branch	752	497	170	85
East Providence Branch	540	387	92	61
Moshassuck Branch	527	243	97	187
Slatersville Secondary	507	229	35	243
East Junction Branch	209	129	56	24
Quonset Point/Davisville Ind. Track	155	88	0	67
Pascoag Stub	88	38	40	10

Source: R.I. Division of Planning: 1988 unpublished inventory

Generally, a five-mile radius from the rail head is accepted as the outside limit for efficient use of rail facilities by shippers. Use of the five-mile criteria also coincides with the ICC notification requirements for rail operators in an abandonment proceeding.

Despite the changing character of Rhode Island's industrial base, proximity to existing infrastructure remains a high priority in the locational decision making process of industrial firms. In a national survey cited in the Industrial Land Use Plan (State Guide Plan Element 212), proximity to railroad infrastructure was most often viewed as a primary criterion in site selection. ((9,150))

Table 661-06(02)
Site Selection Criteria

Factor	Percent of plant openings citing at least 1 factor	Percent of plant movers citing at least 1 factor
Rail Service	47%	25%
On expressway	42%	31%
Special provision of utilities (gas, sewerage, & water)	34%	22%
Rural area	27%	19%
Environmental permits	23%	3%
Within metropolitan area	21%	39%
On water	16%	11%
Available land/building	8%	11%
Transportation (airport, truck service)	3%	3%
Community financing support	1%	0%
Proximity to other division plant	1%	3%
Minimum acreage	1%	0%
Nonunion site	1%	0%
Number of plants citing at least one factor	159	36

This survey indicates that the availability of rail is the number one siting factor in locational decisions of certain industries. Although compelling, the importance of rail service must be placed in context with Rhode Island's current economic base and economic development strategy.

06-03 Benefit/Cost Methodology

The Rhode Island Department of Transportation, or the railroad that owns the rail line, performs the benefit/cost analysis for all proposed rail projects. The benefit/cost methodology contained herein has been adopted for all projects.

"FRA SIMPLIFIED BENEFIT-COST METHODOLOGY
U.S. Department of Transportation, Federal Railroad Administration; Washington, D.C.; May, 1990"

This methodology contains the following nine steps:

1. Establish the project alternatives
2. Determining the project cost
3. Determining null alternatives
4. Using the standard planning horizon
5. Using the FRA published discount rate
6. Calculating transportation efficiency benefits
7. Calculate secondary benefits
8. Calculate salvage value
9. Calculate the benefit-cost ratio

Each project proposed for funding has different characteristics that determine what is done for each of the nine steps. The project and null alternatives are determined directly by the project. The planning horizon generally is the shorter of the assets' physical lives or the length of the benefit stream. Discount rates are based upon a real rate of return expected over the planning horizon (currently a 4.1 percent rate is used). Project costs are based upon estimates of work to be performed by the applicant plus work to be performed by outside contractors plus opportunity costs. Transportation efficiency benefits are calculated using actual revenues and costs whenever these can be determined. Best estimates are substituted if specific information cannot be obtained. Salvage values are determined from engineering estimates of asset values at the end of the planning horizon. The cost/benefit ratio is a simple arithmetic exercise. Other analyses to be performed are determined directly by the nature of the project. For further information on the cost/benefit methodology, the reader is referred to the previously referenced FRA document. Copies of this document are available for review at the Planning Division of the R.I. Department of Transportation.

06-04 Project Prioritization

An effort was made to prioritize the rail lines, and accordingly their associated projects. This was done in terms of their potential and current ability to maximize the impact of the available rehabilitation funds. The prioritization is based on the use of the following criteria:

- o Attainment of the state's rail planning goals and objectives
- o Potential of the rail line to contribute to a positive cost/benefit ratio for the rehabilitation project
- o Availability of private sector or local government resources to provide the required matching funds
- o Local economic implications related to rail service continuation/abandonment
- o Ranking of the rail line based on the amount of industrial-zoned land that it services (see Table 616-06(01))
- o Current usage and characteristics of the line (see Table 661-05(01))

After applying the above criteria, a priority list of rail lines that merit rehabilitation assistance and are eligible for the LRFA program was developed. This list is shown in Table 616-06(03).

Table 661-06(03)

Priority List: Rhode Island Rail Lines

Priority	*Line*
1.	Providence and Worcester Main Line
2.	Quonset Point/Davisville Industrial Track
3.	Slatersville Secondary Track
4.	East Providence Secondary Track

Projects submitted by the railroads are grouped into the following three general categories based on the goals, objectives and criteria developed in Part 661-02:

CATEGORY	***DEFINITION***
1.	Actions to insure safe and continued operation
2.	Actions to improve rail line performance
3.	Actions to expand system utilization and capacity

Category 1 projects are considered essential and should be given priority in the allocation of the available funds. Category 2 and 3 projects should be undertaken when opportunities to increase service levels exist and funding becomes available.

06-05 Projects Recommended for Funding Assistance

Table 661-06(04) lists the recommended projects by priority. The total cost of these projects exceeds the funding resources currently available to the Rhode Island Department of Transportation for rail rehabilitation and rail infrastructure capital improvements. This was done to provide alternative projects that may be eligible for LRFA assistance and establish a priority projects list should other state or federal funds be made available for this purpose.

It should be noted that the Sakonnet River Bridge (see pages 4.32 & 4.33) was damaged in 1988, rendering it inoperable. The cost of the resultant repairs are currently in litigation. Pending the outcome of this litigation, and future potential utilization of the Newport Secondary Line, this bridge may be re-considered for project funding. The Sakonnet River Bridge had been listed as a rehabilitation project in the 1985 State Rail Plan Program of Projects.

06-06 LRFA Program of Projects

As discussed earlier in the plan, the LRFA program is the only source of funds currently available to support railroad rehabilitation needs in Rhode Island. The LRFA Program of Projects delineated in Table 661-06(05) lists only those projects that are able to support a positive cost/benefit analysis in accordance with current program regulations. Project funding is also contingent upon the rail line owner/operator providing the required matching funds. Project priorities have been based on field inspections conducted by RIDOT personnel and reflect the current status of each project. Detailed project descriptions are presented in Appendix C.

TABLE 661-06(04)
PROJECT PRIORITY LIST

PRIORITY	PROJECT	RAIL LINE	LOCATION	DESCRIPTION	EST. COSTS
			CATEGORY 1		
1	Re-tie Woon. Viaduct	P&W Main	Woonsocket	Re-tie three spans (phase II)	$100,000
2	Blackstone R. Bridge (mp 5.83)	P&W Main	Valley Falls	Renew steel&Deck&Trackwork	$432,000
			CATEGORY 2		
3	Yard track bridge	P&W Main	Valley Falls	Replace bridge deck	$85,000
4	Dasvisville Rd Trk Const & Rehab	QP/D Ind. Track	N. Kingstown	Reconst of switch, replace light rail	$1,090,000
5	W Davisville Trk Rehab	QP/D Ind. Track	N. Kingstown	Track rehab	$79,000
6	Bridge rehab. (MP 10.88)	P&W Main	School St. Cumb.	Replace bridge deck	$50,000
7	Bridge Reconst (MP 12.33)	P&W Main	Manville	Bridge Reconstruction	$50,000
8	Culverts & drainage	Slatersville Br.	N. Smith. & Woon.	Rehab culverts	$50,000
			CATEGORY 3		
9	Re-Tie Main Line	P&W Main	Woon/Prov	Install ties on all curves on Main Line	$415,000
10	Quonset Track Rehab	QP/D Ind. Track	N. Kingstown	Track rehab	$116,479
				TOTAL	$2,467,479

Table 661-06(05)
LRFA PROGRAM OF PROJECTS

Priority	*Project*	*Location*	*Project Description*	*Const Yr/ Duration*	*Anticipated Sub. Date*	**Funding Required** *Federal*	*State*	*Railroad*	*Total*
			Projects Currently Being Implemented						
	Harbor Junc.	Prov	Track Const & Rehab	1994/18 mo		$696,700	$49,000	$125,200	$870,900
	E. Junction Sec.	E Prov	Track Rehab	1993/3 mo		$224,000		$96,000	$320,000
			Recommended Projects for LRFA Assistance - Grant Pending LRFA Approval						
1	P&W Main	Cumb	Track Const & Rehab	1993/6 mo		$263,300	$17,400	$65,900	$346,600
2	QP/D Ind. Track	N King	Track Const & Rehab	1993/1 mo		$48,375	$20,732		$69,107
3	P&W Main	Valley Falls	Replace bridge deck	1994/6 mo	Jan-91	$59,500		$25,500	$85,000
4	P&W Main	Woon	Re-tie three spans (phase II)	1994/6 mo	Sep-90	$70,000		$30,000	$100,000
5	P&W Main	Valley Falls	Renew steel&Deck&Trackwork	1994/18 mo	Jun-91	$302,400		$129,600	$432,000
6	P&W Main	Cumb	Replace bridge deck	1994/3 mo	Sep-90	$35,000		$15,000	$50,000
			Recommended Projects for LRFA Assistance						
7	QP/D Ind. Track	N King	Reconst switch, replace light rail	1994/18 mo	Jun-93	$763,000		$327,000	$1,090,000
8	QP/D Ind. Track	N King	Track rehab	1993/3 mo	Jun-93	$55,300		$23,700	$79,000
9	P&W Main	Manville	Bridge Reconstruction	1994/3 mo	Jan-92	$35,000		$15,000	$50,000
10	P&W Main	Woon/Prov	Install ties all curves Main Line	1994/3 mo	Mar-93	$290,500		$124,500	$415,000
11	QP/D Ind. Track	N King	Track rehab	1994/3 mo	Jun-94	$81,535		$34,944	$116,479
12	Slatersville Br.	Woon	Rehab culverts	1994/3 mo	Jan-92	$35,000		$15,000	$50,000
			Total Recommended Projects			$2,038,910	$38,132	$806,144	$2,883,186

PART 661-07 POLICIES AND PROGRAMS

07-01 Introduction

There are many reasons why freight rail service in Rhode Island has waned, and no one issue predominates. The problems include (1) deferred maintenance of track and structures, (2) increasing competition from the trucking industry, (3) changes in Rhode Island's economic base from a manufacturing to a service economy, (4) government subsidy of other transport modes, and (5) regulation of the industry. As the focus of economic development shifts to restoring and rebuilding the manufacturing and distribution sectors of the economy and rail-truck intermodalism grows in both the domestic and the international marketplace, modern rail freight service has the potential to contribute to the economic development of Rhode Island.

Rhode Island does not have a state program for freight rail assistance and the federal LFRA program provides very limited resources for future rail freight rehabilitation projects. Changes at the federal level have been proposed involving substantial budget cuts that could lead to the elimination of the LFRA program.

At the present time, twenty states have enacted programs similar to the LFRA program. This has occurred primarily as a response to the continued abandonments and deteriorating rail service which is occurring nationwide. Despite the demonstrated ongoing need, federal support for the LFRA program continues to diminish and the program faces potential elimination.

Stable freight rail service requires the presence of an ongoing, secure source of rail assistance. From the viewpoint of a prospective rail shipper, the decision to utilize rail is largely based on the prospects for efficient and stable service rather than lower cost. In light of the present status of the LFRA program, the State of Rhode Island should consider the development of a state program of rail assistance similiar to the LFRA program. This program would better enable the promotion of rail freight use and the maintenance of a financially viable and effective core rail network. Actions of the State of Rhode Island aimed at providing assistance to the privately held railroad freight industry must be predicated on the basis of sound economic policy. This state freight rail program would be an economic asset to the state, especially in terms of attracting industries that could/would use freight rail. This program would also assist the state in reducing highway congestion and improving air quality.

07-02 State Rail Policies and Involvement

Two directions for the future of rail freight operations in Rhode Island have been recognized. One is the potential for developing inter-state or through rail traffic from our port facilities; the other is the need to retain local/branch line rail service to our existing industry and to permit the State to attract new industry and distribution businesses which rely on intermodal transportation.

07-02-01 High/Wide Freight

Development of an inter-state or through rail capability in Rhode Island will require improvements in the capability of our ports and our railroad infrastructure. Double stack service is the railroads' most promising opportunity to seize a larger share of the freight market from motor carriers. Since double stack was developed by steamship lines to economically move marine containers inland, port development is the key to developing this capability.

The railroads serving the state of Rhode Island are regional and national in orientation, and accordingly the freight rail plan can affect only that portion of their lines within the state's boundaries. Therefore, regional/multi-state cooperation is necessary. The improvement of overhead clearance should be approached from this perspective. Generally, the types of rail transport that will benefit from improved clearance are containerized or over-dimensioned rolling stock such as double stack trains and tri-level car carriers. These techniques are most viable on rail movements of 200 miles and longer. Intermodal transport of freight from the Port of Providence and Quonset Point/Davisville will present opportunities for expanding existing port traffic and attracting new business. The establishment of inter-modal transport from these ports utilizing the existing rail infrastructure is particularly dependent upon the elimination of height and width restrictions.

Trailer on flatcar (TOFC), container on flatcar (COFC), tri-level car carriers, and double stack service coupled with intermodal systems are growth areas within the rail industry. Progress in this business area is exemplified by the Conrail/P&W interchange at Worcester, Massachusetts. This intermodal terminal, marketed as "The Port of Worcester," has experienced steady growth in car loadings and has recently been expanded. Conrail in particular has been aggressive in improving its rail corridors. The Conrail system now accommodates rail equipment requiring vertical clearances of 19.5 feet throughout much of its rail system with the notable exception of electrified rail lines, although some clearance improvements have been made on segments of electrified lines.

The importation of automobiles into Quonset Point/Davisville and the Port of Providence has been a successful business with potential for expansion. The inability to provide tri-level (rail) car carrier service inhibits the expansion of this business activity and may over time threaten the viability of the existing auto import business. Competition between ports is keen, and those facilities having access to efficient rail transport options such as tri-level service have distinct advantages.

Double-stack trains have become a real breakthrough for the railroad industry, providing a cost-competitive alternative to long-haul trucks. High-cube containers are 9.5 feet in height and require 20.5 feet of clearance to accommodate their use in a double-stack configuration. Maximum width of double-stack trains is currently 10 feet 8 inches. All of the rail routes into Rhode Island designated

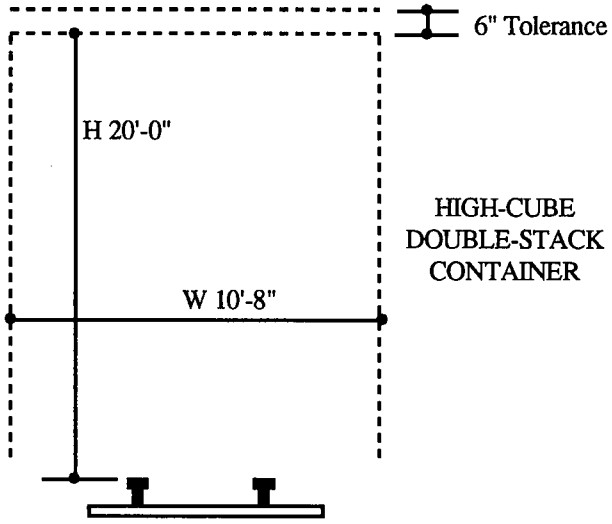
for high/wide service can accommodate this width requirement without further modifications.

Technical Paper Number 141: Overhead Clearance /Dimensional Restrictions on Rhode Island Rail Lines provides information about the location and severity of height and width obstructions over rail lines. Furthermore, this study investigated the methodologies and costs associated with mitigating the adverse impacts of these obstructions. Both undercutting track and modifying bridges are used alone and in combination as an approach to achieve higher vertical clearance.

A clearance standard for this high/wide study was based on the requirements to accommodate high-cube/double-stack rail equipment at 20.5 feet in height and 10 feet 8 inches in width (width at hand brake for auto carriers). This clearance envelope was agreed upon by representatives of the Providence and Worcester Railroad, the Rhode Island Department of Transportation, the Department of Economic Development and the Rhode Island Port Authority and Economic Development Corporation. This clearance standard will accommodate most double-stack and tri-level car-carrier rail car configurations currently in use or anticipated to be used by the inter-modal industry. The clearance envelope is illustrated in Figure 661-07(1).

Figure 661-07(01)

CLEARANCE ENVELOPE



Rail freight traffic enters the state from Blackstone, Massachusetts, following the Providence and Worcester Main Line. At the Boston Switch in Central Falls, freight trains run on track 5 of the Amtrak right-of-way into Providence Station. Freight traffic then follows track 7, also located on the Amtrak ROW, from the station to a point just south of Dean Street. From that point, freight traffic utilizes tracks 1 or 2 of the Shore Line to access the Harbor

Junction Wharf Line from the Cranston Yard and then proceeds south to the Quonset Point/Davisville industrial track.

Published line clearances and on-site inspections indicate the existing height limitations and are listed in Table 661-07(1) for the primary high/wide routes in Rhode Island at a width of 10 feet. 8 inches.

Table 661-07(1)

Existing Height Limitations - Primary Routes

	clearance	obstructions @ 20.5 ft.
P&W Main (RI line) to Valley Falls	17'6"	5
Valley Falls to Cranston Yard	15' 9"	30
Harbor Junction Wharf Industrial Track	15' 9"	3
Cranston Yard to Davisville	15' 9"	9
Quonset Point/Davisville Ind. Track	15'9"	1
	State Total	48

Technical Paper141 builds upon the work completed by RIDOT's Division of Planning in 1987. The 1987 appraisal sought to identify bridge obstructions that prevented rail access to Quonset Point/Davisville by tri-level car carriers.

Undercutting and lowering track was specified as the best approach to clear these obstructions. The maximum depth of undercutting by machine used as the basis for calculating the cost of track lowering was 1.5 feet. Undercutting costs were calculated using 200 feet of base cut beneath the obstruction (100 feet at the bridge center line) and transitioned at 2 percent for 100 feet at each side for a total undercut of 400 feet. Unit cost is $125 per foot based on new construction (exclusive of right-of-way acquisition).

Undercutting all 48 structures would still require 32 structures to undergo further modifications or removal to achieve 20.5 feet of clearance over rail. As such it was necessary to develop a method to estimate the magnitude of costs involved to overcome the remaining obstructions. Right-of-way was chosen as the one similar requirement of almost all of the combined relocation and reconstruction projects.

Technical Paper Number 141 lists each obstruction by mile point, and shows the proposed remediation action and estimated cost for rail line segments within Rhode Island. The total costs indicate that funding of a magnitude of $141,000,000 is required. This cost analysis does not address the restrictions on

the Cranston yard to Davisville segment that can only be mitigated by reallignment of structures and right-of-way acquisitons (five interstate highway bridges).

In addition to costs attributable to the existing high/wide routes serving the Ports of Providence and Quonset Point/Davisville, the clearances on the P&W main line between Worcester Massachusetts and Rhode Island must be improved to allow high/wide rail traffic into our state. There are now eleven highway bridge obstructions over the P&W Main line between Grafton and Blackstone, Massachusetts. These obstructions currently allow only 17 feet, 10 inches of clearance. None of the highways carried by these bridges are Interstate.

The P&W intends to make the clearance improvements necessary on its Main Line in both Massachusetts and Rhode Island to allow for the movement of modern rail cars. The undercutting of track at two of the five structures in Rhode Island has been completed. One structure is being replaced and is in final design. Progress has already been achieved on some of the obstructions in Massachusetts.

The Providence and Worcester railroad has resumed development of the East Providence ("South Quay") Port Facility project. A berm has been built into the Providence River that can be filled with dredge spoils from new ship berths at the quay and other locations. A container port has been proposed by the P&W railroad for this site. If this facility is developed, it would enjoy the most advantageous high/wide rail access of all Rhode Island ports. Moreover, if the aforementioned obstructions on the P&W main line in Massachusetts were removed, only a limited number of obstructions would remain in Rhode Island. As these obstructions are eliminated high/wide access to this proposed container facility will exist to the pier upon completion of the East Providence Industrial Highway project now in its final design phase by the RIDOT. These improvements would provide the East Providence ("South Quay") Port Facility with one of the best intermodal (marine/rail) connections anywhere in New England.

In Report Number 75: Ground Transportation Plan the Division of Planning has recommended a combined federal/state budget of approximately $13.5 million per year for highway bridge replacement and reconstruction projects. In comparison, this high/wide study has identified at least $137,000,000 of strictly bridge-related costs (excluding stand-alone undercutting projects). The magnitude of these costs are overwhelming when compared to the state's overall budget for bridge projects.

The implications of Northeast Corridor electrification on clearances are potentially very severe. The minimum bridge height clearance for 25 Kv electrification is 17 feet 8 inches. Overhead catenary will reduce clearances by a minimum of at least six inches depending on the bridge design. We anticipate that the overall clearance for freight traffic on the Shore Line in Rhode Island will be reduced to 15 feet 6 inches if overhead catenary is constructed. This height would be consistent with the Northeast Corridor (NEC) clearances now in place

between New York and New Haven. Electrification of the NEC in Rhode Island may remove any opportunity for clearance improvements and may in fact reduce existing freight traffic due to increased passenger activity on the Shore Line.

The P&W, as well as the Rhode Island Department of Transportation, Rhode Island Port Authority, Rhode Island Congressional delegation, Greater Providence Chamber of Commerce, members of the business community individually and environmental organizations all expressed serious concerns about the impacts of electrification on rail freight service in Rhode Island, including service to existing industry and the ability to introduce modern rail service to the State. Amtrak has agreed to maintain the freight clearances developed by the FRA and agreed to by Conrail during the original NECIP Project. Additionally, it is Amtrak's contention that P&W could realize some cost savings if the incremental work required to provide adequate freight clearances are undertaken at the same time that Amtrak is raising clearances for electrified operations. This argument may be countered by the fact that maintaining current freight clearances by undercutting six inches to accommodate the overhead catenary will reduce the possibility of increasing existing clearances by that method thus increasing the total costs of accommodating high/wide traffic.

A further impact of the electrification is the planned increase in passenger trains (both high speed and commuter rail) on the corridor, curtailing if not altogether eliminating the daytime operation window of the slow-moving freight trains. Such changes in freight service times and frequency may jeopardize both continued freight service and industrial customers along the Shore Line.The P&W and RIDOT have been meeting with the FRA and Amtrak in an effort to resolve conflicts of a construction and operational nature.

Public Law 102-533 "Amtrak Authorization Development Act of 1992" enacted in late 1992, has established the need for a Master Plan for the Northeast Corridor, including New York and Connecticut, to be prepared by the Federal Railroad Administration by October 30, 1993. The Master Plan will include a specific program of projects. The P&W has submitted plans for a third track between the Boston Switch and Quonset Point/Davisville to be included as part of the Master Plan. This submittal proposes a third track at a clearance of 20.7', which would enable the movement of double stack containers and tri-level automobile racks to and from the Port of Davisville.

The third track has been analyzed in the P&W's engineering report in terms of four alternatives with a full or partial third track considered in those alternatives. The preferred alternative of the P&W study, Option I, calls for a third track over the full length of the Shore Line between the Boston Switch and Davisville. Entry into Davisville would occur on an elevated crossover (flyover). Initial review by RIDOT of this and the other three options indicates that although Option I provides total separation of passenger and freight service - a desirable position from both safety and operational perspectives - the cost estimate of $87.7 million may be low based upon the flyover, historical preservation, and environmental concerns.

The third track concept may be viewed from three vantage points. First, a third track structure would permit existing freight traffic to move along the Shore Line largely in accordance with the present (daytime) timeframe. Second, the safety of separating freight and high-speed passenger operations would be achieved. Lastly, an enhanced clearance envelope would allow rail moves of automobile freight from the Port of Davisville yielding jobs and revenue to Rhode Island.

Current plans call for engineering and environmental studies to determine the most appropriate alternative to achieve the desired clearance, by either one of the four options discussed above, or another option. The funding of studies shall be provided through RIDOT with a determination of funding any clearance enhancements at a later date. It is safe to say that funding a project of this magnitude will require a variety of funding sources. The Rhode Island Port Authority is currently attempting to gather the data necessary to conduct an assessment of all of the economic impacts of the NECIP and the third track alternative.

If clearance improvements are undertaken, the first phase of the clearance project should be undertaken on the P&W main line from Grafton Massachusetts, then proceeding south to the Valley Falls yard following the existing rail traffic patterns. Clearly, opportunities such as the proposed East Providence ("South Quay") Port Facility should continue to be pursued as a means of enhancing the State's intermodal capacity.

07-02-02 Branch Line Service

Retention of our branch line system is largely based on the need to service rail-dependent business. The character of Rhode Island's industrial rail users is such that containerized freight service may not be justified by in-state demand. Industrial rail users in Rhode Island continue to use bulk rail shipments inbound and use motor freight service outbound. It is anticipated that this trend will continue absent major investments to increase clearances. This does not diminish the fact that rail dependent industry contributes substantially to the state's employment and economic welfare.

Technical paper 143, Analysis of Freight Rail Use and Demand contains freight transportation use and demand data derived from a survey of current and potential rail freight users. The purpose of this paper was to develop a body of information that the State of Rhode Island could use to formulate a strategy to stabilize rail service on branch lines and serve the economic development needs of the state.

The sampling parameters and data available restricted the survey to 276 recipients. The goal was to receive responses from those mid-size and larger firms most likely to utilize rail services or be negatively impacted by further rail line abandonments. The survey asked for descriptive information concerning each firm, freight transport usage, past and present, and general information

about commodities shipped and received. Each survey repondent was also asked to rank the service characteristics of competing transport modes.

Rail lines serving the following municipalities were included in the assessment of direct freight rail service use and demand:

Rail line	Communities Served
Slatersville Secondary	North Smithfield & Woonsocket
P&W Main Line	Woonsocket, Cumberland, & Central Falls
Moshassuck	Lincoln & Pawtucket
East Providence Secondary	Pawtucket & East Providence
East Junction Secondary	Pawtucket & East Providence
Harbor Junction Wharf	Providence Port Area
Pascoag Stub	Providence & Johnston
Pontiac Secondary	Cranston & Warwick
Quonset Pt/Davisville Ind. Trk.	North Kingstown
Newport Secondary Trk.	Tiverton, Portsmouth, Middletown & Newport
Shoreline	Central Falls, Pawtucket, Providence Cranston, Warwick, East Greenwich, North Kingstown, South Kingstown, Charlestown & Westerly

The following findings were taken from Tecnical Paper 143. Twenty seven percent of the survey universe (75 firms) responded to the survey. Eighteen percent of the survey respondents were current users of rail freight services. This usage, however, was quite low with over half the rail customers receiving only one to ten rail cars per month. Most of this use was via direct bulk deliveries (38 percent) with some also using containers in addition to truck. All of the current rail customers who responded to the survey were located either on a rail line or serviced directly by a rail spur.

Seventy-seven percent of current users were manufacturers with the balance being wholesalers. The principal commodities received were some form of finished or intermediate goods (31 percent) followed equally by paper and steel (19 percent). Of those that use rail for shipping, 90 percent shipped finished goods, although none responded that rail was important for product distribution.

Total employment for rail users was 7,584 with manufacturers accounting for 98 percent of that total. The average employment of a rail user was 632 with a median of 250. Fifty-four percent responded that they would consider using intermodal rail/truck facilities; however, the respondents also ranked door to door service as the most important factor in determining choice of freight modes. Freight rates followed closely as the second most important factor.

Diversion to rail was an option considered by over 20 percent of the total survey respondents (17/75). Almost 30 percent of these indicated that they could divert at least 25 percent of their existing freight traffic to rail.

The survey data was tabulated by rail line in order to assess freight demands and identify the market characteristics in the surrounding communities. The findings for the individual rail lines can be found in Part 661-04: Rhode Island Rail Lines, under the heading Freight Rail Use and Demand. The freight rail demand analysis was not promising. Only the East Providence Secondary,the P&W Main Line and segments of the Shore Line demonstrated any level of demand that warrant confidence in a continuance of service. Many of the smaller branch lines appear to be susceptible to abandonment. While none of these lines alone serves a large number of firms, the companies that they serve are, in many instances, large employers that indicated they were dependent upon freight rail.

Regional considerations for rail use were not highly valued by the survey respondents. Only 20 percent indicated that rail service in the region was important. It could be that rail transport fails to service regional transport needs or that the assumption that local industry has strong ties to nearby states for suppliers and distributors may be false. For railroads such as the P&W we anticipate that this will cause a shift of resources away from direct rail services and accelerate the abandonment of light density branch lines. Regional railroad systems like the P&W typically hold a much higher percentage of light density rail line than larger Class I and II railroads. Further complicating matters, they are unable to maintain service and retain existing customers without at least a stable traffic base.

A need presently exists to alleviate the chronic rehabilitation needs of Rhode Island's freight rail branch lines. These are primarily low density lines serving, at best, a small number of shippers. This makes it nearly impossible for the operator of those lines to justify investment in the lines or to finance improvements based on a short term outlook. "Lack of present uses for track or rights-of-way is transitory: revitalization not abandonment is the mission for low density lines where no present use is foreseeable." ((2))

All of the rail lines in Rhode Island (with the exception of the Shore Line) should be considered light density lines, potentially subject to abandonment. In order to evaluate the prospects for continued rail service, certain rail line analysis must be done. The basis of each rail line analysis should be a line inventory utilizing actual field inspection whenever possible. That inventory should include two types of information.

1. **Infrastructure data** - road bed, ballast, rail, ties, switches, structures, yard track, team tracks, passing tracks, spurs, etc.

2. **Operational data** - service frequency, rolling stock, time table data, switching requirements, and shipper/receiver information.

Without such data we do not believe that the state can respond adequately in the public interest to a pending abandonment, or act in a preemptive manner to address problems. The planning process should be proactive, anticipating problems before they occur, rather than reacting to crisis situations. Without a complete description of a rail line, an understanding of the conditions leading to an abandonment petition cannot occur. Because of a lack of information, alternative actions will be difficult to identify and impossible to implement in a timely manner. Information that should be made available from the railroad includes:

-Abandonment status
-Prospects for current/future rail service
-Line description
-Rehabilitation requirements
-Railroad profit/loss
-Impact on rail users
-Community impacts
-Energy/environmental impact
-Economic development potential
-Development of abandonment alternatives

In situations where the track is removed or conditions dictate that viable passenger or freight rail service cannot be re-established, rail right-of-way should be land banked by the state. Public ownership can make these rights-of-way available for other interim transportation options, recreational use, open space or other public purposes. Linear rights-of-way have proven their value when converted to uses such as bike paths and utility corridors for telecommunications, pipelines, and electric power transmission.

Rhode Island does not have a state program for railroad assistance, and only the limited federally funded LRFA program exists to help railroads fund rehabilitation projects. (The Federal Highway Administration does provide funding for safety related projects, such as traffic control devices and surface improvements at highway grade crossings. A complete listing of FHWA funded rail crossing improvement projects can be found in appendix A of this plan).

The federal LRFA program has been the target of repeated budget cuts. At the present time, 20 states have enacted programs similar to the LRFA program. This has occurred primarily as a response to the continued abandonments and deteriorating rail service which is occurring nation wide. Despite the ongoing need, federal support for the LRFA program continues to diminish.

The stability of rail service cannot be enhanced without an ongoing, secure source of rail assistance in place. From the viewpoint of a prospective rail shipper, the decision to utilize rail is largely based on the prospects for efficient and stable service rather than lowest cost. In order to promote the use of rail freight and maintain a financially viable and effective railroad system, the State of Rhode Island should consider the development of a state program of rail

assistance, similar to the federal LRFA program. Actions of the State of Rhode Island aimed at providing assistance to the privately held railroad freight industry must be predicated on the basis of sound public policy.

07-03 Policy Recommendations

o Preserve vital rail links to areas with natural or economic resources which have the potential for future expansion or development.

o Insure the preservation of railroad rights-of-way and/or the preservation of abandoned lines as transportation corridors through state ownership/acquisition, including stations, yards, and other related facilities for future freight and/or passenger use.

o Discourage the use of rail rate surcharges and line embargoes as a method of subsidizing rail service.

o In future rail acquisitions by the state, the Rhode Island Department of Transportation should preserve the option to operate directed service or lease state owned rail lines to a private operator as a method of preserving rail service.

o Promote and encourage the use of private funding from shippers to help in supplying project matching funds in combination with the railroads, the Rhode Island Port Authority, and the Rhode Island Department of Transportation.

07-04 Program Recommendations

o The Department of Economic Development should promote rail freight transportation as an overall strategy; including, but not limited to, cooperation with the railroads in locating and retaining industrial rail users along branch lines with development potential and subsidizing short-term freight rail operating losses on marginal lines while locating new industry for the line.

o The Rhode Island Department of Transportation should designate a rail coordinator within the department to coordinate and promote the efficient utilization of the state's railroad infrastructure and operations, both freight and passenger.

o The state should equalize taxation on railroad property with other limited use industrial properties to provide equitable treatment.

o The Rhode Island Department of Administration - Division of Planning should evaluate the feasibility of instituting a gross revenue tax program for railroads similar to that in place in the state of Connecticut , which substitutes approved track improvements for tax payments.

o The state should aggressively pursue the reduction of at-grade rail/highway crossings and undertake a share in the cost of maintaining the surface improvements at existing crossings. Suspension of rail service or abandonments of rail lines will remove the rail operator's responsibility for maintaining these improvements.

o The State of Rhode Island should create ,through legislation or other means, a state funded rail assistance program modeled after the federal LRFA program to safeguard Rhode Island's rail freight infrastucture in light of the reduction in LRFA funds or the complete elimination of the LRFA program. This program should be administered by the Rhode Island Department of Transportation based upon a detailed analysis of existing and potential freight rail service demand. The goal of this program should be the preservation of rail service to existing industry and the extension of that service to potential new customers.

o The State and its congressional delegation should aggressively promote a balanced approach to address shared use by the different rail modes on the Shore Line, including the development of a third track for freight rail and its ability to accommodate high/wide loads, including tri-level automobile transport to/from the Port of Davisville.

07-05 Administrative Recommendations

o The Rhode Island Department of Transportation should be the lead agency for project-level rail planning and implementation actions. Railroad planning and coordination is a prerequisite to the safe and efficient operation of the state's railroads and as such requires the cooperation of RIDOT and the Rhode Island Public Utilities Commission, both of which have significant jurisdiction over railroad operations and facilities.

o The Rhode Island Department of Administration - Division of Planning should continue as the agency responsible for the update and maintenance of the Freight Rail Plan as an element of the State Guide Plan.

o In accordance with current state law, The Rhode Island Department of Transportation should require that railroads submit annual operating summaries, to include maintenance, for each line that they operate in order to remain eligible for rail assistance programs.

o Existing state legislation should be amended in order to allow the state at least 180 days to respond to a railroad offer to sell abandoned right-of-way or other property. The present 90 day response period defined in RIGL 39-6.1-9 is clearly inadequate.

o The Rhode Island Department of Transportation should identify and the General Assembly should repeal or revise existing state statutes relating to rail which are either antiquated or detrimental to efficient service.

o If state assistance is offered to a railroad, contractual agreements should made that guarantee acceptable levels of service performance on the line in question.

o Large scale rail infrastructure improvements, such as the development of a third track for freight rail on the Shore Line, should include analysis and assessment by the Rhode Island Department of Economic Development of the short and long term economic impact including the potential loss of current and future business activity and opportuities.

07-06 Transportation Improvement Program

Railroad rehabilitation projects receive funding assistance through the Local Rail Freight Assistance program of the Federal Railroad Administration. As such, they are required to be a part of the overall transportation planning effort. Although funding for this program has been severely diminished, a significant number of projects have been programed for FY 1992/93 and beyond. Further, a state-funded program, similar in its goals and objectives to the federal LRFA program, is recommended by this Freight Rail Plan update.

Bridge replacement projects over existing railroad lines present opportunities to increase over-head clearance, which has been identified as a critical issue for the possible expansion of inter-modal freight use of the state's railroad system. Conflicts over bridge design criteria that potentially impact railroad operations are often identified in preliminary engineering work rather than at the conceptual planning stages. It is felt that inclusion of planned railroad rehabilitation projects in the biennial Transportation Improvement Program will help identify these potential problem areas and assist in the development of alternative actions.

07-07 Financing

A very limited amount of LRFA funding is available to the state to continue rehabilitation assistance. Beyond this, there is no regular source of federal or state funding assistance. It is recommended that the state create a local rail assistance program similar to Connecticut's Standards of Service Program or a "pay as you go method", utilizing a dedicated transportation fund to provide a match, as is being proposed for highway and mass transit projects.

Past attempts by the Rhode Island legislature to stabilize rail service through tax abatement have had very little long term benefit. Public Law 85-470 which sunseted on June 30, 1989 attempted to improve the viability of rail service in the state. During the four year period in which this program was in place, $755,254.26 in state reimbursements to city and towns were made on behalf of the Providence and Worcester Railroad.

One condition of this legislation had been the requirement that railroads must not abandon any rail lines during the life of the legislation. Within six months of the sunset of this legislation, five branch lines totalling 32 route miles were proposed for abandonment by the P&W. Considering the absence of long term benefits derived from a program of this type, we cannot recommend its use.

07-08 Issues for Further Study

07-08-01 Introduction

Important rail planning issues have been identified during the course of this rail plan update. But because of limitations imposed by time and resources available for this effort, they cannot be adequately addressed in this update. State policies should promote a balanced transportation system which provides for the greatest amount of choice and convenience to the public. Policies, goals and objectives presented earlier in this plan outlined an action agenda for rail planning which is supported by the available data. Two issues have been identified which merit further study and analysis:

07-08-02 Availability of the Shore Line for Freight Service

The growth of passenger/commuter operations on the Amtrak Shore Line may be in conflict with existing and potential rail freight traffic that must access the line. Over half of the branch lines in the state must be accessed by (or are affected by) the Amtrak Shore Line. As recommended in this part of the previous Freight Rail Plan, RIDOT has explored the feasibility of a third track along the Shore Line that would be dedicated to freight service and provide necessary height clearances. The P&W has requested that such a project be included in the required Master Plan for the Northeast Corridor Improvement Project and this request has the support of the State and its Congressional delegation.

State financial participation in a project of this scope should be based upon the, yet to be, documented market analysis of high clearance freight shipments to and from the State's ports. Moreover, the State must insure that Amtrak adequately assesses the economic impact of the NECIP.

07-08-03 Taxation

Tax-related disincentives are at the forefront of issues repeatedly cited by railroads as being detrimental to competitive rail freight service. Most often quoted are:

1. Inequitable valuation of rail properties in relation to similar equivalent industrial properties.

2. Taxation of the right-of-way used by railroads. Railroads are at a disadvantage when a comparison is made of the equivalent costs borne by the trucking industry for use of public highways. According to a report prepared by

the Providence and Worcester Railroad, Rhode Island ranked number 2 in the nation in taxation of railroads per route mile operated. ((3))

3. The public utility status of railroads in light of the very competitive business environments in which railroads operate. That designation requires that they are subject to the following taxation/regulations:

- o Public Utilities Commission Assessment tax
- o Public Services Corporation Gross Earnings tax
- o Motor Carriers Tax on fuel

Railroads are taxed like a public utility although they do not have a statutorily guaranteed rate of return such as that which other public utilities enjoy. " As a railroad is forced to increase its rates to compensate for higher taxes, its customers seek and find alternative means of moving products into and out of the state." ((3))

It is recommended that the Division of Planning of the Department of Administration undertake a study of the taxation and regulatory requirements imposed on railroads operating in Rhode Island. In addition, the study should determine the feasibility of imposing a gross revenue tax on railroads to be applied toward maintenance and improvement of railroad infrastructure, similar to the program in place in the state of Connecticut.

07-09 Freight Rail Plan's Consistency with the State Guide Plan

The goals, objectives, policies and recommendations set forth in this plan are consistent with other applicable elements of the State Guide Plan; specifically, Element 121: Land Use 2010 - State Land Use Policies and Plan (June 1989). In Goal 2-3 the Plan encourages actions that will :

Facilitate land use and development that will sustain and promote economic growth consistent with the state's characteristics and environmental objectives.

Specific transportation policies of the plan are:

T 1. Develop and maintain a balanced, integrated, safe, and cost-efficient transportation system, giving full recognition to long-term land use and environmental impacts associated with transportation facilities.

T 4. Provide a variety of transportation modes designed to meet the differing needs of different people, activities, and purposes of travel, and the needs of industry and commerce, within the framework of current and planned development patterns.

T 21. Prevent destruction of rail lines and rights-of-way that may have potential for future use.

Economic development policies of the Land Use Plan that address the use of freight rail include:

> **E 1.** Conserve and enhance desirable existing industrial areas and regional shopping areas, office complexes, and concentrations of service activities so as to maximize the investment and utilization of existing infrastructure.
>
> **E 8.** Promote industrial development in proximity to rail transport availability.

Element 212: Industrial Land Use Plan establishes policies directed at the provision, maintenance, and maximization of our infrastructure, of which rail must be considered a vital element. Specifically, these policies include:

> **C-1.** Promote industrial sites and facilities within the older central cities that already have a full complement of public services.
>
> **C-2.** Stimulate industrial growth through infrastructure extension and improvements only when consistent with state and local laws, policies, and plans. Coordinate infrastructure financing between and among the state, the communities, developers, and industry.
>
> **C-3.** Balance the principle of "matching the plant to the land" against the need to attract industry with "construction-ready" sites that are fully serviced, but in limited supply. Where feasible avoid the underutilization of infrastructure.
>
> **C-4.** Where possible, schedule infrastructure improvements to coincide with promotional campaigns for urban industrial sites.

Regional Transportaion Issues of Element 611: Ground Transportation Plan include:

> **11-06-03.** Continue to work with other northeastern states to promote improved high-speed rail transportation in the Northeast Corridor in the near term, as a way of meeting travel demand that cannot be accommodated by the highway and airport systems. Consider the impact of alternative improvements on present and future rail freight service.

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APPENDIX A
RAIL /HIGHWAY GRADE CROSSINGS

CITY/TOWN	CROSSING	OPERATOR	RAIL LINE	EXISTING PROTECTION	FUND ELIG.	ON FAHS	PRIV.
BARRINGTON	WEST ST	RIDOT	BRISTOL		NO		YES
CENTRAL FALLS	HUNT ST	P&W	MAIN LINE	AUTO. GATES	YES	NO	
CENTRAL FALLS	CHASES LANE	P&W	MAINLINE	FLASHERS	NO		YES
COVENTRY	PULASKI ST	P&W	WASHINGTON +		YES	YES	
COVENTRY	LAUREL AV	P&W	WASHINGTON +		YES	YES	
COVENTRY	STATION ST	P&W	WASHINGTON +		YES	YES	
COVENTRY	FLAT RIVER RD	P&W	WASHINGTON +		YES	YES	
COVENTRY	BATTEY AV (SWEETS)	P&W	WASHINGTON +		YES	NO	
COVENTRY	HOLDEN ST (MAPLE)	P&W	WASHINGTON +		YES	NO	
COVENTRY	WHITFORD ST	P&W	WASHINGTON +		NO		YES
COVENTRY	QUIDNECK ST	P&W	WASHINGTON +		NO		YES
COVENTRY	MAPLEDALE	P&W	WASHINGTON +		NO		YES
COVENTRY	ALBRA LN	P&W	WASHINGTON +		NO		YES
COVENTRY	CEMETARY CROSSING	P&W	WASHINGTON +		NO		YES
COVENTRY	NO NAME	P&W	WASHINGTON +		NO		YES
COVENTRY	INDUSTRIAL DR	P&W	WASHINGTON +		NO		YES
COVENTRY	QUIDNECK RES CO	P&W	WASHINGTON +		NO		YES
COVENTRY	CAMP AYOHO	P&W	WASHINGTON +		NO		YES
COVENTRY	AYOHO RD	P&W	WASHINGTON +		NO		YES
COVENTRY	WHITE HEAD R	P&W	WASHINGTON +		NO		YES
COVENTRY	RAYMOND PT RD	P&W	WASHINGTON +		NO		YES
CRANSTON	SOCKANOSETT CROSS RD	P&W	PONTIAC +		YES	YES	
CRANSTON	PONTIAC AV	P&W	PONTIAC +		YES	YES	
CRANSTON	PARK AV	P&W	WASHINGTON +		YES	YES	
CRANSTON	PINE ST	P&W	WASHINGTON +		YES	YES	
CRANSTON	ELMWOOD AV	P&W	WARWICK IND	FLASHERS	YES	YES	
CRANSTON	MILL ST	P&W	WARWICK	CROSS -BUCKS	YES	NO	
CRANSTON	PARK VIEW BLVD	P&W	WARWICK	CROSS -BUCKS	YES	NO	
CRANSTON	ALLEN AV (FINE LANE)	P&W	PONTIAC +		NO		YES
CRANSTON	FOREST AV	P&W	PONTIAC +		NO		YES

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CITY/TOWN	CROSSING	OPERATOR	RAIL LINE	EXISTING PROTECTION	FUND ON ELIG.	FAHS	PRIV.
CRANSTON	DAVIS AV	P&W	PONTIAC +		NO		YES
CRANSTON	HAMILTON AV	P&W	PONTIAC +		NO		YES
CRANSTON	MARINE DR (BUDLONGS)	P&W	PONTIAC +		NO		YES
CRANSTON	BUDLONGS	P&W	PONTIAC +		NO		YES
CRANSTON	NO NAME	P&W	PONTIAC +		NO		YES
CRANSTON	PRISON CROSSING	P&W	PONTIAC +		NO		YES
CRANSTON	CRANSTON LUMBER CO	P&W	WASHINGTON +		NO		YES
CRANSTON	UXBRIDGE ST	P&W	WASHINGTON +		NO		YES
CRANSTON	SHERMAN AV	P&W	WASHINGTON +		NO		YES
CRANSTON	NO NAME	P&W	WASHINGTON +		NO		YES
CRANSTON	FARM CROSSING	P&W	WARWICK IND +		NO		YES
CUMBERLAND	ABBOTT ST	P&W	WRENTHAM +		YES	YES	
CUMBERLAND	SPRING ST	P&W	E. PROVIDENCE	AUTO. GATES	YES	YES	
CUMBERLAND	MILL ST (LONSDALE)	P&W	MAIN LINE	AUTO. GATES	YES	YES	
CUMBERLAND	MENDON RD	P&W	MAIN LINE	AUTO. GATES	YES	YES	
CUMBERLAND	MILL ST (VALLEY FALLS)	P&W	MAIN LINE	AUTO. GATES	YES	NO	
CUMBERLAND	MILL ST (VALLEY FALLS)	P&W	E. PROVIDENCE	AUTO. GATES	YES	NO	
CUMBERLAND	TITUS ST	P&W	MAIN LINE	FLASHERS	YES	NO	
CUMBERLAND	HIGH ST	P&W	MAIN LINE	FLASHERS	YES	NO	
CUMBERLAND	MARTIN ST	P&W	MAIN LINE	AUTO. GATES	YES	NO	
CUMBERLAND	ASHTON & MIDDLE ST	P&W	MAIN LINE	FLASHERS	YES	NO	
CUMBERLAND	SERVICE RD	P&W	MAINLINE		NO		YES
CUMBERLAND	NO NAME	P&W	MAINLINE		NO		YES
E. PROVIDENCE	FERRIS RD	P&W	E. JUNCTION	AUTO. GATES	YES	YES	
E. PROVIDENCE	PAWTUCKET AV	P&W	E. PROVIDENCE	AUTO. GATES	YES	YES	
E. PROVIDENCE	DEXTER RD	P&W	E. JUNCTION	AUTO. GATES	YES	NO	
E. PROVIDENCE	BOURNE AV	P&W	E. PROVIDENCE	CROSS -BUCKS	YES	NO	
E. PROVIDENCE	MAURAN ST	P&W	BRISTOL	CROSS -BUCKS	YES	NO	
E. PROVIDENCE	NO NAME	P&W	E. JUNCTION		NO		YES
E. PROVIDENCE	NO NAME	P&W	E. PROVIDENCE		NO		YES

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CITY/TOWN	CROSSING	OPERATOR	RAIL LINE	EXISTING PROTECTION	FUND ELIG.	ON FAHS	PRIV.
E. PROVIDENCE	WASHBURN WIRE	P&W	E. PROVIDENCE		NO		YES
E. PROVIDENCE	NOYES AV	P&W	E. PROVIDENCE		NO		YES
E. PROVIDENCE	B.V.S.D.C.	P&W	E. PROVIDENCE		NO		YES
E. PROVIDENCE	FRAM CORP	P&W	E. PROVIDENCE		NO		YES
E. PROVIDENCE	FRAM CORP	P&W	E. PROVIDENCE		NO		YES
E. PROVIDENCE	GULF OIL CROSSING	P&W	BRISTOL		NO		YES
E. PROVIDENCE	AMERICAN OIL	P&W	BRISTOL		NO		YES
E. PROVIDENCE	SQUANTUM CLUB	P&W	BRISTOL		NO		YES
E. PROVIDENCE	MOBIL OIL	P&W	BRISTOL		NO		YES
E. PROVIDENCE	BEACH PT RD	P&W	BRISTOL		NO		YES
LINCOLN	SCHOOL ST	P&W	MAIN LINE	FLASHERS	YES	YES	
LINCOLN	HIGGINSON AV	P&W	MOSHASSUCK +				
LINCOLN	MANVILLE JENCKS	P&W	MAINLINE	FLASHERS	NO		YES
LINCOLN	NO NAME	P&W	MAINLINE	FLASHERS	NO		YES
MIDDLETOWN	CROSSING "D"	RIDOT	NEWPORT		YES	NO	
MIDDLETOWN	CROSSING "E"	RIDOT	NEWPORT	FLASHERS	YES	NO	
MIDDLETOWN	CROSSING "F"	RIDOT	NEWPORT	FLASHERS	YES	NO	
MIDDLETOWN	CROSSING "G"	RIDOT	NEWPORT	FLASHERS	YES	NO	
MIDDLETOWN	CROSSING "H"	RIDOT	NEWPORT	FLASHERS	YES	NO	
MIDDLETOWN	CROSSING "I"	RIDOT	NEWPORT	FLASHERS	YES	NO	
MIDDLETOWN	CROSSING "J"	RIDOT	NEWPORT	FLASHERS	YES	NO	
MIDDLETOWN	CROSSING "K"	RIDOT	NEWPORT	FLASHERS	YES	NO	
MIDDLETOWN	CROSSING "L"	RIDOT	NEWPORT	FLASHERS	YES	NO	
N. KINGSTOWN	CAMP AV	DED	QP/D IND TR	AUTO. GATES	YES	YES	
N. KINGSTOWN	ROGER WILLIAMS WAY	DED	QP/D IND TR	AUTO. GATES	YES	YES	
N. KINGSTOWN	ROGER WILLIAMS WAY II	DED	QP/D IND TR	AUTO. GATES	YES		
N. KINGSTOWN	SARATOGA ST	DED	QP/D IND TR	CROSS -BUCKS	YES	NO	
N. KINGSTOWN	3 RD ST	DED	QP/D IND TR	CROSS -BUCKS	YES	NO	
N. KINGSTOWN	2 ND ST	DED	QP/D IND TR	CROSS -BUCKS	YES	NO	
N. KINGSTOWN	QUONSET RD	DED	QP/D IND TR	CROSS -BUCKS	YES	NO	

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CITY/TOWN	CROSSING	OPERATOR	RAIL LINE	EXISTING PROTECTION	FUND ELIG.	ON FAHS	PRIV.
N. KINGSTOWN	LEXINGTON SW SPUR	DED	QP/D IND TR	CROSS -BUCKS	YES	NO	
N. KINGSTOWN	RICHMOND ST	DED	QP/D IND TR	CROSS -BUCKS	YES	NO	
N. SMITHFIELD	STEEL ST	P&W	SLATERSVILLE	CROSS -BUCKS	YES	NO	
N.SMITHFIELD	NO NAME	P&W	SLATERSVILLE	CROSS-BUCKS	NO		YES
N.SMITHFIELD	MENDON BROOK DR	P&W	SLATERSVILLE	CROSS-BUCKS	NO		
N.SMITHFIELD	NO NAME	P&W	SLATERSVILLE		NO		YES
N.SMITHFIELD	ORGANIC'S CROSSING	P&W	SLATERSVILLE		NO		YES
NEWPORT	POPLAR ST	RIDOT	NEWPORT	CROSS -BUCKS	YES	NO	
NEWPORT	ELM ST	RIDOT	NEWPORT	CROSS -BUCKS	YES	NO	
NEWPORT	NO NAME	RIDOT	NEWPORT		NO		YES
NEWPORT	ADMIRAL KALFBUS BLVD.	RIDOT	NEWPORT	AUTO. GATES	YES	YES	
PAWTUCKET	BEVERAGE HILL AV	P&W	E. PROVIDENCE	TRAFFIC SIGNALS	YES	YES	
PAWTUCKET	COLUMBUS AV	P&W	E. PROVIDENCE	TRAFFIC SIGNALS	YES	YES	
PAWTUCKET	DIVISION ST	P&W	E. PROVIDENCE	TRAFFIC SIGNALS	YES	YES	
PAWTUCKET	WOLCOTT ST	P&W	E. PROVIDENCE	TRAFFIC SIGNALS	YES	YES	
PAWTUCKET	ARMISTICE BLVD	P&W	E. PROVIDENCE	TRAFFIC SIGNALS	YES	YES	
PAWTUCKET	CENTRAL AV	P&W	E. PROVIDENCE	TRAFFIC SIGNALS	YES	YES	
PAWTUCKET	COTTAGE ST	P&W	E. PROVIDENCE	TRAFFIC SIGNALS	YES	YES	
PAWTUCKET	BROADWAY	P&W	E. PROVIDENCE	TRAFFIC SIGNALS	YES	YES	
PAWTUCKET	MINERAL SPRING AV	P&W	MOSHASSUCK	CROSS-BUCKS	YES	YES	
PAWTUCKET	WEEDEN ST	P&W	MOSHASSUCK	CROSS-BUCKS	YES	YES	
PAWTUCKET	MIN SPG AV AW SPUR	P&W	MOSHASSUCK	CROSS-BUCKS	YES	YES	
PAWTUCKET	CAMPBELL ST	P&W	E. PROVIDENCE	CROSS -BUCKS	YES	NO	
PAWTUCKET	MONTICELLO AV	P&W	E. PROVIDENCE	TRAFFIC SIGNALS	YES	NO	
PAWTUCKET	WEBSTER ST	P&W	E. PROVIDENCE	TRAFFIC SIGNALS	YES	NO	
PAWTUCKET	COYLE ST	P&W	E. PROVIDENCE	CROSS -BUCKS	YES	NO	
PAWTUCKET	JOHN ST	P&W	E. PROVIDENCE	CROSS -BUCKS	YES	NO	
PAWTUCKET	ROOSEVELT AV	P&W	E. PROVIDENCE	TRAFFIC SIGNALS	YES	NO	
PAWTUCKET	CANAL ST SW SPUR	P&W	MOSHASSUCK	CROSS -BUCKS	YES	NO	
PORTSMOUTH	BAYVIEW RD	P&W	NEWPORT	CROSS-BUCKS & BE	YES	NO	

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CITY/TOWN	CROSSING	OPERATOR	RAIL LINE	EXISTING PROTECTION	FUND ELIG.	ON FAHS	PRIV.
PORTSMOUTH	WILLOW LN	P&W	NEWPORT	CROSS -BUCKS	YES	NO	
PORTSMOUTH	COREY LN	RIDOT	NEWPORT	CROSS -BUCKS	YES	NO	
PORTSMOUTH	BERNBE AV	RIDOT	NEWPORT		YES	NO	
PORTSMOUTH	BROWN AV ('B' CROSSING)	RIDOT	NEWPORT	FLASHERS	YES	NO	
PORTSMOUTH	DUMP CROSSING	RIDOT	NEWPORT		YES	NO	
PORTSMOUTH	SKEET RANGE ('C' CROSSING)	RIDOT	NEWPORT	FLASHERS	YES	NO	
PORTSMOUTH	GOLF COURSE	P&W	NEWPORT		NO		YES
PORTSMOUTH	GOLF COURSE	P&W	NEWPORT		NO		YES
PORTSMOUTH	MUSSELBED SHAL RD	P&W	NEWPORT		NO		YES
PORTSMOUTH	MITCHELL RD	P&W	NEWPORT		NO		YES
PORTSMOUTH	WEYHAEUSER RD	P&W	NEWPORT		NO		YES
PORTSMOUTH	WEST SHORE RD	P&W	NEWPORT		NO		YES
PORTSMOUTH	NO NAME	P&W	NEWPORT		NO		YES
PORTSMOUTH	NO NAME	P&W	NEWPORT		NO		YES
PROVIDENCE	ALLENS & THURBER	P&W	HJW**	TRAFFIC SIGNALS	YES	YES	
PROVIDENCE	EDDY ST	P&W	HJW**	CROSS-BUCKS	YES	YES	
PROVIDENCE	ALLENS AV (PROV GAS)	P&W	HJW**	CROSS-BUCKS	YES	YES	
PROVIDENCE	ALLENS AV (TEXACO)	P&W	HJW**	AUTO. GATES	YES	YES	
PROVIDENCE	TROY ST	P&W	PASCOAG STUB		YES	YES	
PROVIDENCE	TROY ST	P&W	PASCOAG STUB		YES	YES	
PROVIDENCE	HARRIS AV BOYD	P&W	WASHINGTON	CROSS-BUCKS	YES	YES	
PROVIDENCE	HARRIS AV COSTO	P&W	WASHINGTON		YES	YES	
PROVIDENCE	HARRIS AV PROD	P&W	WASHINGTON		YES	YES	
PROVIDENCE	ALLENS & LEHIGH	P&W	HJW**	CROSS-BUCKS	YES	NO	
PROVIDENCE	ALLENS & SEYMORE	P&W	HJW**	CROSS-BUCKS	YES	NO	
PROVIDENCE	ALLENS & PLEASURE	P&W	HJW**	CROSS-BUCKS	YES	NO	
PROVIDENCE	ALLENS & OXFORD	P&W	HJW**	CROSS-BUCKS	YES	NO	
PROVIDENCE	ALLENS & MUTUAL	P&W	HJW**	CROSS-BUCKS	YES	NO	
PROVIDENCE	ALLENS & SAYLES	P&W	HJW**	CROSS-BUCKS	YES	NO	
PROVIDENCE	ALLENS & SWAN	P&W	HJW**	CROSS-BUCKS	YES	NO	

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CITY/TOWN	CROSSING	OPERATOR	RAIL LINE	EXISTING PROTECTION	FUND ELIG.	ON FAHS	PRIV.
PROVIDENCE	ALLENS & SHERBURNE	P&W	HJW**	CROSS-BUCKS	YES	NO	
PROVIDENCE	ALLENS & BAY	P&W	HJW**	CROSS-BUCKS	YES	NO	
PROVIDENCE	ALLENS & O'CONNELL	P&W	HJW**	CROSS-BUCKS	YES	NO	
PROVIDENCE	ALLENS & PUBLIC	P&W	HJW**	CROSS-BUCKS	YES	NO	
PROVIDENCE	ALLENS & BLACKSTONE	P&W	HJW**	CROSS-BUCKS	YES	NO	
PROVIDENCE	ALLENS & HENDERSON	P&W	HJW**	CROSS-BUCKS	YES	NO	
PROVIDENCE	ALLENS & CRARY	P&W	HJW**	CROSS-BUCKS	YES	NO	
PROVIDENCE	ALLENS & GLOBE	P&W	HJW**	CROSS-BUCKS	YES	NO	
S. KINGSTOWN	WOLF ROCKS RD	AMTRAK	SHORE LINE*	AUTO. GATES	YES	NO	
TIVERTON	HOPPER ST (GULF OIL)	P&W	NEWPORT		NO		YES
W. WARWICK	PROVIDENCE ST	P&W	WASHINGTON +	FLASHERS	YES	YES	
W. WARWICK	PROVIDENCE ST	P&W	WASHINGTON +	FLASHERS	YES	YES	
W. WARWICK	BROOKSIDE AV	P&W	WASHINGTON +	FLASHERS	YES	NO	
W. WARWICK	HAY ST	P&W	WASHINGTON +		NO		YES
WARREN	KELLY ST	P&W	BRISTOL		NO		YES
WARREN	BROWN ST (PROV GAS)	P&W	BRISTOL		NO		YES
WARREN	NORBET ST (NARR ELEC)	P&W	BRISTOL		NO		YES
WARREN	HOPE ST	P&W	BRISTOL		NO		YES
WARWICK	EAST AV	P&W	WASHINGTON +	FLASHERS	YES	YES	
WARWICK	PONTIAC AV	P&W	PONTIAC +	CROSS-BUCKS	YES	NO	
WARWICK	CENTRAL AV	P&W	PONTIAC +	CROSS-BUCKS	YES	NO	
WARWICK	GREENWICH AV	P&W	PONTIAC +	CROSS-BUCKS	YES	NO	
WARWICK	W. NATICK RD	P&W	WASHINGTON +	FLASHERS	YES	NO	
WOONSOCKET	HAMLET ST	P&W	MAIN LINE	AUTO. GATES	YES	YES	
WOONSOCKET	RIVER ST	P&W	MAIN LINE	AUTO. GATES	YES	YES	
WOONSOCKET	SECOND ST	P&W	MAIN LINE	AUTO. GATES	YES	YES	
WOONSOCKET	WINTER ST	P&W	SLATERSVILLE	FLASHERS	YES	YES	
WOONSOCKET	N. MAIN ST	P&W	SLATERSVILLE	CROSS-BUCKS	YES	YES	
WOONSOCKET	RAILROAD ST	P&W	SLATERSVILLE	CROSS-BUCKS	YES	YES	
WOONSOCKET	RIVER ST	P&W	SLATERSVILLE	FLASHERS	YES	YES	

APPENDIX A
RAIL /HIGHWAY GRADE CROSSINGS

CITY/TOWN	CROSSING	OPERATOR	RAIL LINE	EXISTING PROTECTION	FUND ELIG.	ON FAHS	PRIV.
WOONSOCKET	PROSPECT ST	P&W	SLATERSVILLE	CROSS-BUCKS	YES	NO	
WOONSOCKET	OLO ST	P&W	SLATERSVILLE	CROSS-BUCKS	YES	NO	
WOONSOCKET	ASYLUM ST	P&W	SLATERSVILLE	CROSS-BUCKS	NO		YES

* HIGH SPEED RAIL LINE CROSSING ELIMINATION PROGRAM
** HJW STANDS FOR HARBOR JUNCTION WHARF
+LINE ABANDONED PER ICC RULING

APPENDIX B
INDUSTRIAL-ZONED LAND SERVICED BY RAIL

CITY	SITE	CLASS	ACRES TOT	ACRES IND	ACRES OTH	ACRES VAC
Bristol Secondary Track						
East Providence	10070	IDP-3	67	47		20
East Providence	10110	IDP-2	749	309	68	372
Barrington	1010	IDP-0(d)	5	5		
Barrington	1030	IDP-0(d)	7.8	1	6.8	
Warren	34040	IDP-1	68	20	36	12
East Junction Branch						
Pawtucket	26150	IDP-0(d)	64	41	20	3
East Providence	10030	IDP-3	113	67	26	20
East Providence	10050	IDP-0(d)	32	21	10	1
East Providence Branch						
Pawtucket	26110	IDP-2	280	173	81	26
East Providence	10020	IDP-2	52	28	7	17
East Providence	10040	IDP-2	208	186	4	18
Harbor Junction Branch						
Providence	28330	IDP-2	752	497	170	85
Moshassuck Branch						
Central Falls	4010	IDP-0(d)	10	8	2	
Lincoln	17080	IDP-1	149	106	9	34
Pawtucket	26010	IDP-1	368	129	86	153
Narragansett Pier Branch						
South Kingstown	32040	IDP-0(d)	25	25		
Newport Secondary Line						
Newport	21010	IDP-0(r)	281	9	270	2
Portsmouth	27010	IDP-2	464	124	182	158
Portsmouth	27100	IDP-0(r)	127	0	0	127
Tiverton	33010	IDP-2	24	10	4	10
P & W Main						
Central Falls	4030	IDP-2	78.5	47	22	9.5
Central Falls	4040	IDP-0(d)	22	14.5	7	0.5
Cumberland	8020	IDP-2	297.5	71	36.5	190
Cumberland	8030	IDP-2	262	65	30	167
Cumberland	8060	IDP-2	79	4	32	43
Cumberland	8070	IDP-2	123	16	35	72
Lincoln	17010	IDP-1	62	8	12	42
Lincoln	17020	IDP-0(d)	11	7	4	
North Smithfield	25020	IDP-1	58		18	40
Woonsocket	39040	IDP-2	49	23	18	8
Woonsocket	39070	IDP-1	12		7	5
Woonsocket	39090	IDP-2	290	80	69	141

APPENDIX B
INDUSTRIAL-ZONED LAND SERVICED BY RAIL

CITY	SITE	CLASS	ACRES TOT	ACRES IND	ACRES OTH	ACRES VAC
		Pascoag Stub				
Providence	28210	IDP-0(r)	88	38	40	10
		Pontiac Branch				
Cranston	7070	IDP-2	351	179	114	58
Warwick	35080	IDP-1	111	26	48	37
Warwick	35090	IDP-0(d)	11	2		9
Warwick	35100	IDP-0(d)	9	7	1	1
		QP/D Industrial Track				
North Kingstown/QP	40030	IDP-2	85	24		61
North Kingstown/QP	40040	IDP-2	70	64		6
		Shore Line				
Pawtucket	26020	IDP-2	108	81	25	2
Providence	28030	IDP-0(r)	420	169	189	62
Providence	28130	IDP-1	335	196	81	58
Providence	28140	IDP-2	32	20	10	2
Providence	28260	IDP-0(d)	12		12	
Providence	28280	IDP-2	148	80	29	41
Providence	28281	IDP-0(d)	2	2		
Warwick	35040	IDP-2	258.5	50	111.5	97
Warwick	35070	IDP-2	880.5	445	335	100.5
Warwick	35072	IDP-3	5.85			5.85
Warwick	35150	IDP-1	19	5	8	6
East Greenwich	9070	IDP-0(r)	2		2	
East Greenwich	9090	IDP-3	36	5	22	9
East Greenwich	9100	IDP-0(r)	3		3	
West Warwick	38010	IDP-1	24	10	6	8
West Warwick	38020	IDP-2	175	20	101	54
Charlestown	5010	IDP-2	1246	14	7	1225
Charlestown	5030	IDP-0(d)	25	25		
Exeter	11020	IDP-0(r)	360	5	33	322
Exeter	11030	IDP-0(d)	15	15		
Exeter	11040	IDP-0(d)	4	4		
Hopkinton	14030	IDP-1	186		23	163
Richmond	29040	IDP-0(d)	2	1	1	
Richmond	29050	IDP-2	8		3	5
Richmond	29060	IDP-2	238	7	58	173
Westerly	36010	IDP-2	295	127	134	34
Westerly	36020	IDP-2	22	3		19
Westerly	36030	IDP-2	211	14	57	140
Westerly	36080	IDP-2	562	42	7	513
Westerly	36090	IDP-2	77		29	48
North Kingstown	23010	IDP-2	191.17	36.15	33.95	121.07
North Kingstown	23020	IDP-0(r)	7.9		7.9	
North Kingstown	23030	IDP-2	80.15	7.22		72.93
North Kingstown	23040	IDP-2	8.39	6.06		2.33
North Kingstown	23080	IDP-0(r)	279.85	8		271.85
North Kingstown	23090	IDP-0(r)	199.6		199.6	
North Kingstown	23140	IDP-2	387	196	6	185
South Kingstown	32010	IDP-2	160	19	100	41

APPENDIX B
INDUSTRIAL-ZONED LAND SERVICED BY RAIL

CITY	SITE	CLASS	ACRES TOT	ACRES IND	ACRES OTH	ACRES VAC
		Slatersville Secondary				
North Smithfield	25030	IDP-3	397	176.9	11	209.1
Woonsocket	39020	IDP-2	49	30	16	3
Woonsocket	39050	IDP-2	52	19	8	25
Woonsocket	39150	IDP-2	9	3		6
		Warwick Industrial Track				
Warwick	35020	IDP-1	23			23
		Washington Secondary				
Cranston	7040	IDP-1	114	51	35	28
Cranston	7050	IDP-3	180	66	58	56
Cranston	7090	IDP-2	622	535	7	80
Cranston	7100	IDP-1	24	0	18	6
Providence	28290	IDP-0(d)	36	4	32	
Coventry	6020	IDP-0(r)	4		4	
Coventry	6030	IDP-1	534	81	218	235
Coventry	6060	IDP-1	101	58	17	26
West Warwick	38030	IDP-1	47	7	25	15
West Warwick	38060	IDP-2	28	20	7	1
		Wrentham Industrial Track				
Cumberland	8080	IDP-1	36	15	15	6

INDUSTRIAL LAND USE DEVELOPMENT POTENTIAL CLASSIFICATIONS

CLASSIFICATION	***DESCRIPTION***	***FACTORS***
IDP-0 (d)	***Developed***	Little or no vacant land available.
IDP-0 (r)	***Rezone***	Developed primarily with incompatible uses e.g. residential, recreation, land fill, or predominant site features, that cannot be reasonably mitigated by infrastructure, include: • poor soils • primary recharge area • wetlands • flood hazard area • prime agricultural land • unique natural area
IDP-1	***Low Potential***	Development may be appropriate based upon good highway access or other unique feature but limited to low intensity due to lack of infrastructure and presence of: • poor soils • ground water aquifer • wetlands • flood hazard area
IDP-2	***Moderate Potential***	Site may support small scale development or expansion of existing industries due to size and/or accessibility, or the type of industry may be restricted due to limited infrastructure and the presence of: • poor soils • ground water aquifer • wetlands • flood hazard area
IDP-3	***High Potential***	Site has: • sizable vacant parcels • public water • public sewer • good transportation access • no limiting physiographic features

Note: *The site classification number represents an industrial site code used in a computerized data base maintained by the Division of Planning. The site number represents a City or Town and a specific industrial-zoned site in that comunity.*

Source: Industrial Land Use Plan, State Guide Plan Element 212, May 1990

Appendix C

Project Descriptions

The project descriptions are listed in priority order as delineated in Table 661-06(05), LRSA Program of Projects. The estimated costs were calculated in March 1993, and represent total project costs at that point in time.

Recommended Projects for LRFA Assistance - Grant Pending LRFA Approval

1. P&W Main Line, Cumberland

Extensive tie/switch timber replacement and surface enhancements to the line between milepost 7.0 (in the vicinity of Mill Street, north of the Valley Falls Yard, in the town of Cumberland) and milepost 17.4 at the state line in the town of North Smithfield. This line is described in detail in Part 04-02-05 of this plan. **Total estimated costs, $346,600.**

2. Quonset Track Rehabilitation

Provide rehabilitation to the lead track connecting the Seaview System to the Shore Line. This segment of the Seaview line extends from milepost 0 to .12 and requires tie and switch timber replacement along with associated surface enhancements to replace a badly worn switch. This rehabilitation is scheduled for the summer of 1993, pending FRA approval and will remedy a possible derailment which could potentialy foul the Shore Line. The Rhode Island Port Authority/Department of Economic Development will provide a 30% match to federal funds for this project. This line is described in detail in Part 04-03-02 of this plan. **Total estimated costs, $69,107.**

3. P&W Main Line, Valley Falls

This project involves rehabilitation on Yard Track Bridge #5.83, which is immediately adjacent to Main Line Bridge #5.83. The proposed work consists primarily of deck timber replacement. This line is described in detail in Part 04-02-05 of this plan. **Total estimated costs, $85,000.**

4. P&W Main Line, Woonsocket Viaduct

This project is a rehabilitation of three of the eight decks on the viaduct which carries P&W's main line through downtown Woonsocket. The proposed rehabilitation generally consists of replacing worn out ties with new specially shaped ties and replacing worn track material and bridge bearings with new or reconditioned material. The proposed project will increase operating speed and improve the safety of operations over the line. This line is described in detail in Part 04-02-05 of this plan. **Total estimated costs, $100,000.**

5. P&W Main Line, Blackstone River Bridge, Valley Falls

This project involves additional work at Main Line Bridge #5.83 located in the Valley Falls yard. This bridge and Main Line Bridge #5.73 are already part of another project to replace deck timbers. When Bridge #5.83 was measured for new timbers, it was discovered that one to two layers of the steel plates on which the timbers would rest had rusted to the point where they need replacing. Additionally, the bridge would be closed to train traffic for several weeks while the plates were replaced and temporary tracks installed to enable trains to run on another bridge. The total new project, therefore, is a combination of steel plate replacement and temporary track work to detour trains during the project construction period. This line is described in detail in Part 04-02-05 of this plan. **Total estimated costs, $432,000.**

6. P&W Main Line, Cumberland

Main Line Bridge #10.88 over the Blackstone River near the School Street crossing requires deck timber replacement to maintain its design weight carrying capacity and 40 mph train speed on the line. This line is described in detail in Part 04-02-07 of this plan. **Total estimated costs, $50,000.**

Recommended Projects for LRFA Assistance

7. Reconstruction and Track Rehabilitation

This project, part of improved rail access to the Davisville Piers, extends from approximately the intersection of Roger Williams Way and Davisville Road to the Davisville Pier Area. It includes approximately 9,763 feet of track plus switch timbers for an approximate total of 11,813 feet.

A thorough cost/benefit analysis has not been completed for this project, however, a cost/benefit analysis will be prepared using current FRA authorized methods when submitted by RIDOT to FRA for approval. In conformance with RIDOT policy, LRSA funding for this project is contingent upon the rail line owner/operator providing the required matching funds. **Total estimated costs, $1,090,000.**

8. West Davisville Track Rehabilitation

This project is part of the improved rail access into Quonset Point Davisville Industrial Park. The project extends from West Davisville to Post Road (approximately the intersection of Roger Williams Way and Davisville Road). It includes upgrading approximately 2,732 feet of track plus switch timbers. This line is described in detail in Part 04-03-02 of this plan.

A thorough cost/benefit analysis has not been completed for this project, however, a cost/benefit analysis will be prepared using current FRA authorized

methods when the project is submitted to FRA by RIDOT for approval. In conformance with RIDOT policy, LRSA funding for this project is contingent upon the rail line owner/operator providing the required matching funds. **Total estimated costs, $79,000.**

9 P&W Main Line, Manville

This project involves converting Main Line bridge #12.33 from an open deck bridge to a ballast deck bridge. Essentially, panels will be installed under the track which will allow ballast to be put down, prolonging the life of the bridge structure and allowing a 40 mph speed over this segment of track. This line is described in detail in Part 04-02-07 of this plan.

A thorough cost/benefit analysis has not been completed for this project, however, a cost/benefit analysis will be prepared using current FRA authorized methods when the project is submitted to FRA by RIDOT for approval. In conformance with RIDOT policy, LRSA funding for this project is contingent upon the rail line owner/operator providing the required matching funds. **Total estimated costs, $50,000.**

10. P&W Main Track Rehabilitation

This project involves the installation of ties, track ballasting and surfacing between the Boston Switch in Central Falls and the Rhode Island/Massachusetts state line at North Smithfield.

A detailed benefit/cost analysis has not been completed for this project. A benefit/cost analysis will be prepared using the previously described methodology. This analysis will be submitted to the FRA along with an application for project funding. **Total estimated costs, $415,000.**

11. Quonset Track Rehabilitation

This project, part of the improved rail access in Quonset, extends from approximately the intersection of Roger Williams Way and Davisville Road to Casey Road in Quonset. It includes approximately 8,305 feet of track plus switch timbers. This line is described in detail in Part 04-03-02 of this plan.

A thorough cost/benefit analysis has not been completed for this project, however, a cost/benefit analysis will be prepared using current FRA authorized methods when the project is submitted to FRA by RIDOT for approval. In conformance with RIDOT policy, LRSA funding for this project is contingent upon the rail line owner/operator providing the required matching funds. **Total estimated costs, $116,479.**

12 Slatersville Branch, Woonsocket

Culverts on this branch line require cleaning and rehabilitation to allow proper drainage to avoid flooding and washouts in certain track areas. Some culverts may require reconstruction or replacement. This line is described in detail in Part 04-02-09 of this plan.

A thorough cost/benefit analysis has not been completed for this project, however, a cost/benefit analysis will be prepared using current FRA authorized methods when the project is submitted to FRA by RIDOT for approval. In conformance with RIDOT policy, LRSA funding for this project is contingent upon the rail line owner/operator providing the required matching funds. **Total estimated costs, $50,000.**